

=> d que 163

L2 24 SEA FILE=REGISTRY ABB=ON PLU=ON (143746-71-8/BI OR
 143746-72-9/BI OR 160485-42-7/BI OR 161747-14-4/BI OR
 25445-42-5/BI OR 317809-68-0/BI OR 373596-08-8/BI OR
 373596-09-9/BI OR 398128-81-9/BI OR 6006-83-3/BI OR
 607387-98-4/BI OR 775324-33-9/BI OR 775324-34-0/BI OR
 854519-90-7/BI OR 854519-91-8/BI OR 854519-92-9/BI OR
 854519-93-0/BI OR 854519-94-1/BI OR 854519-95-2/BI OR
 854519-96-3/BI OR 854519-97-4/BI OR 854519-98-5/BI OR
 854519-99-6/BI OR 854520-00-6/BI)
 L6 1270 SEA FILE=REGISTRY ABB=ON PLU=ON 8481.2/RID
 L7 14 SEA FILE=REGISTRY ABB=ON PLU=ON L6 AND L2
 L13 3411 SEA FILE=HCAPLUS ABB=ON PLU=ON L6
 L15 7451 SEA FILE=HCAPLUS ABB=ON PLU=ON "SEMICONDUCTOR FILMS"+PFT,
 OLD,NEW,NT/CT
 L16 52234 SEA FILE=HCAPLUS ABB=ON PLU=ON "FIELD EFFECT TRANSISTORS"
 +PFT,OLD,NEW,NT/CT
 L17 443 SEA FILE=HCAPLUS ABB=ON PLU=ON L13 AND (L15 OR L16)
 L18 324 SEA FILE=HCAPLUS ABB=ON PLU=ON L17 AND DEV/RL
 L21 320 SEA FILE=HCAPLUS ABB=ON PLU=ON L18 AND ELECTRIC?/SC,SX
 L22 36 SEA FILE=HCAPLUS ABB=ON PLU=ON L21 AND L15
 L23 198 SEA FILE=HCAPLUS ABB=ON PLU=ON L18 AND SEMICONDUCT?
 L24 197 SEA FILE=HCAPLUS ABB=ON PLU=ON L23 AND ELECTRIC?/SC,SX
 L25 148 SEA FILE=HCAPLUS ABB=ON PLU=ON L24 AND ORGANIC?(3A) (SEMIC
 ONDUCT? OR CONDUCT?)
 L26 123 SEA FILE=HCAPLUS ABB=ON PLU=ON L25 AND (LAYER? OR FILM?
 OR BILAYER? OR SHEET? OR THINLAYER? OR LAMIN? OR OVERLAY?
 OR OVERLAID? OR MULTILAYER?)
 L27 11 SEA FILE=HCAPLUS ABB=ON PLU=ON L26 AND SOLVENT?
 L28 4 SEA FILE=HCAPLUS ABB=ON PLU=ON L26 AND BINDER?
 L29 4 SEA FILE=HCAPLUS ABB=ON PLU=ON L26 AND (COMPOSITION? OR
 FORMULATION? OR MIXTUR?)
 L30 13 SEA FILE=HCAPLUS ABB=ON PLU=ON (L27 OR L28 OR L29)
 L31 42 SEA FILE=HCAPLUS ABB=ON PLU=ON L22 OR L30
 L32 18 SEA FILE=HCAPLUS ABB=ON PLU=ON L31 AND (1840-2003)/PRY,AY
 ,PY
 L33 299 SEA FILE=HCAPLUS ABB=ON PLU=ON L18 AND ELECTRIC?/SC
 L34 119 SEA FILE=HCAPLUS ABB=ON PLU=ON L33 AND (1840-2003)/PRY,AY
 ,PY
 L35 92 SEA FILE=HCAPLUS ABB=ON PLU=ON L34 AND (LAYER? OR FILM?
 OR BILAYER? OR SHEET? OR THINLAYER? OR LAMIN? OR OVERLAY?
 OR OVERLAID? OR MULTILAYER?)
 L36 15 SEA FILE=HCAPLUS ABB=ON PLU=ON L35 AND L15
 L37 18 SEA FILE=HCAPLUS ABB=ON PLU=ON L32 OR L36
 L38 8 SEA FILE=REGISTRY ABB=ON PLU=ON L7 AND 1-5/SI
 L39 39 SEA FILE=HCAPLUS ABB=ON PLU=ON L38
 L40 QUE ABB=ON PLU=ON LUM!N? OR ELECTROLUM!N OR ORGANOLUM!
 N? OR (ELECTRO OR ORGANO OR ORG#) (2A) LUM!N? OR LIGHT?(2A)
 (EMIT? OR EMISSION?) OR (EL OR E(W)L OR L(W)E(W)D OR OLED
)/IB,AB OR LED/IT
 L41 2 SEA FILE=HCAPLUS ABB=ON PLU=ON L39 AND L40
 L42 265367 SEA FILE=HCAPLUS ABB=ON PLU=ON LUMINESCENCE+PFT,NT,OLD,NE
 W/CT
 L43 2 SEA FILE=HCAPLUS ABB=ON PLU=ON L39 AND L42
 L44 57805 SEA FILE=HCAPLUS ABB=ON PLU=ON "ELECTROLUMINESCENT
 DEVICES"+PFT,OLD,NEW,NT/CT
 L45 3 SEA FILE=HCAPLUS ABB=ON PLU=ON L39 AND L44
 L46 1 SEA FILE=HCAPLUS ABB=ON PLU=ON L39 AND L15
 L47 7 SEA FILE=HCAPLUS ABB=ON PLU=ON L39 AND L16

L48 27 SEA FILE=HCAPLUS ABB=ON PLU=ON L39 AND ELECTRIC?/SC,SX
 L49 29 SEA FILE=HCAPLUS ABB=ON PLU=ON L41 OR L43 OR L45 OR L46
 OR L47 OR L48
 L51 16 SEA FILE=HCAPLUS ABB=ON PLU=ON L18 AND L40
 L52 42 SEA FILE=HCAPLUS ABB=ON PLU=ON L17 AND (L40 OR L42 OR
 L44)
 L53 42 SEA FILE=HCAPLUS ABB=ON PLU=ON L51 OR L52
 L54 10 SEA FILE=HCAPLUS ABB=ON PLU=ON L53 AND (1840-2003)/PRY,AY
 ,PY
 L55 56 SEA FILE=HCAPLUS ABB=ON PLU=ON L37 OR L49 OR L54
 L56 2897 SEA FILE=HCAPLUS ABB=ON PLU=ON BROWN, B?/AU
 L57 31 SEA FILE=HCAPLUS ABB=ON PLU=ON VERES, J?/AU
 L58 23 SEA FILE=HCAPLUS ABB=ON PLU=ON ANEMIAN, R?/AU
 L59 10561 SEA FILE=HCAPLUS ABB=ON PLU=ON WILLIAMS, R?/AU
 L60 36 SEA FILE=HCAPLUS ABB=ON PLU=ON OGIER, S?/AU
 L61 24 SEA FILE=HCAPLUS ABB=ON PLU=ON LEEMING, S?/AU
 L62 4 SEA FILE=HCAPLUS ABB=ON PLU=ON (L56 OR L57 OR L58 OR L59
 OR L60 OR L61) AND L13
 L63 54 SEA FILE=HCAPLUS ABB=ON PLU=ON L55 NOT L62

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 E1 THROUGH E12 ASSIGNED

=> d 163 1-54 ibib ed abs hitstr hitind

L63 ANSWER 1 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2007:379490 HCAPLUS Full-text
 TITLE: Liquid phase fabrication of active electronic
 devices including organic semiconductors
 INVENTOR(S): Dotz, Florian; Katz, Howard E.; Granstrom, Jimmy;
 Reichmanis, Elsa; Vaidyanathan, Subramanian;
 Hennig, Ingolf; Richter, Frauke
 PATENT ASSIGNEE(S): Germany
 SOURCE: U.S. Pat. Appl. Publ., 43pp.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2007077681	A1	20070405	US 2005-240222	20050930
WO 2007039575	A1	20070412	WO 2006-EP66915	20060929
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA,			
	CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,			
	GB, GD, GE, GH, GM, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG,			
	KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA,			
	MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG,			
	PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY,			
	TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW			
RW:	AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU,			
	IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR,			
	BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD,			
	TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,			
	ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
PRIORITY APPLN. INFO.:			US 2005-240222	A 20050930

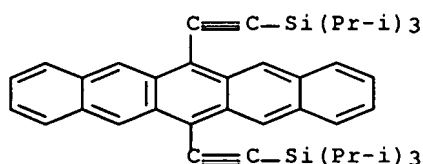
ED Entered STN: 05 Apr 2007

AB A process comprises: providing a support body; forming an organic semiconductor composition body including an organic semiconductor composition on the support body, no more than 10% of the organic semiconductor composition being pentacene; providing a first organic dielec. composition mobilized in a first liquid medium, the organic semiconductor composition being insol. in the first liquid medium; and forming a first organic dielec. composition body from the first organic dielec. composition on the organic semiconductor composition body. An organic semiconductor composition body is formed on an organic dielec. composition body. Apparatus have an organic dielec. composition body on an organic semiconductor composition body.

IT **373596-08-8**, 6,13-Bis(triisopropylsilylethynyl)pentacene
(semiconductor; liquid phase fabrication of active electronic devices including organic semiconductors)

RN 373596-08-8 HCAPLUS

CN Pentacene, 6,13-bis[2-[tris(1-methylethyl)silyl]ethynyl]- (CA INDEX NAME)



INCL 438099000

CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 76

IT **Field effect transistors**

(liquid phase fabrication of active electronic devices including organic semiconductors)

IT 5690-24-4D, Naphthalene-1,4,5,8-tetracarboxylic diimide, N,N-dialkyl-110134-47-9, Poly(3-hexylthiophene), regioregular 155166-90-8

185413-64-3, 5,5'-Bis(4-hydroxy phenyl)-2,2'-bithiophene 289625-34-9

373596-08-8, 6,13-Bis(triisopropylsilylethynyl)pentacene

386748-29-4 583884-12-2, 5,5'-Bis(4-hexyl phenyl)-2,2'-bithiophene

682763-35-5 918441-39-1 932396-68-4 932396-69-5 932396-70-8

932396-71-9 932396-72-0 932396-73-1 932396-74-2 932396-77-5

932745-61-4 932745-62-5 932745-63-6 932745-64-7 932745-65-8

932745-66-9 932745-67-0 932745-68-1 932745-69-2 932745-70-5

(semiconductor; liquid phase fabrication of active electronic devices including organic semiconductors)

L63 ANSWER 2 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2007:143366 HCAPLUS Full-text

DOCUMENT NUMBER: 146:241822

TITLE: Photoelectric conversion element

INVENTOR(S): Musha, Kiyoshi; Takahashi, Tamotsu

PATENT ASSIGNEE(S): Adeka Corporation, Japan; National University Corporation Hokkaido University

SOURCE: PCT Int. Appl., 51pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2007015503	A1	20070208	WO 2006-JP315272	20060802
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
PRIORITY APPLN. INFO.:			JP 2005-224134	A 20050802
			JP 2006-118519	A 20060421

ED Entered STN: 08 Feb 2007

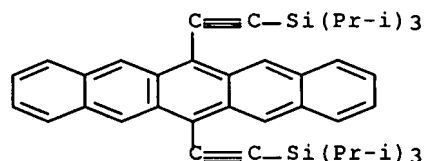
AB A photoelec. conversion element has a photoelec. conversion layer between opposing anode electrode and cathode electrode. The photoelec. conversion layer has a structure in which (1) a p-type semiconductor layer and (2) a layer mixing a p-type semiconductor with an n-type semiconductor, and, as required, (3) an n-type semiconductor layer or a metal oxide layer are sequentially layered. The photoelec. conversion layer is characterized in that at least one photoelec. conversion efficiency improving means out of the following (a)-(c) was used: (a) an organic semiconductor thin film with a charge mobility of at least 0.005 cm²/V·sec being used as at least one semiconductor layer in (1)-(3), (b) the energy gap between the work function of the anode electrode and the HOMO (highest occupied mol. orbit) of the p-type semiconductor layer in (1) and/or the energy gap between the work function of the cathode electrode and the LUMO (lowest unoccupied mol. orbit) of the n-type semiconductor layer in (3) being up to 0.5 eV, and (c) a buffer layer formed of an organic compound being provided between the anode electrode and/or the cathode electrode and the photoelec. conversion layer to chemical bond the organic compound of the buffer layer with the anode electrode and/or the cathode electrode.

IT 373596-08-8

(photoelec. conversion components containing laminated p- and n-type semiconductor layers)

RN 373596-08-8 HCAPLUS

CN Pentacene, 6,13-bis[2-[tris(1-methylethyl)silyl]ethynyl]- (CA INDEX NAME)



CC 76-5 (Electric Phenomena)

IT 135-48-8, Pentacene 104934-50-1 160848-22-6 373596-08-8

868394-82-5 915100-15-1

(photoelec. conversion components containing laminated p- and n-type semiconductor layers)

REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L63 ANSWER 3 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2006:1354317 HCAPLUS Full-text

DOCUMENT NUMBER: 146:112556

TITLE: Organic semiconductor film forming method, organic semiconductor film and organic thin film transistor

INVENTOR(S): Sugisaki, Reiko; Takemura, Chiyoko; Hirai, Katsura

PATENT ASSIGNEE(S): Konica Minolta Holdings, Inc., Japan

SOURCE: PCT Int. Appl., 37pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006137512	A1	20061228	WO 2006-JP312576	20060623
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW			
RW:	AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			

PRIORITY APPLN. INFO.:

JP 2005-185267

A 20050624

ED Entered STN: 28 Dec 2006

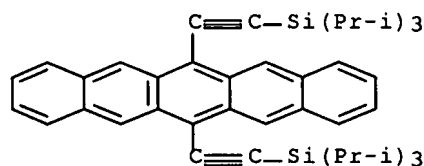
AB A method for forming an organic semiconductor film having a high carrier mobility is provided by having an average volatilization rate of a solvent within a prescribed range during a step of drying, at the time of applying a coating solution, which includes an organic semiconductor material and a nonhalogen solvent, on a substrate. In such forming method, characteristic fluctuation in repeated use of the organic semiconductor film is suppressed, and an organic thin film transistor having an excellent film forming characteristic even on an insulator with reduced gate voltage threshold can be obtained.

IT 373596-08-8 398128-81-9

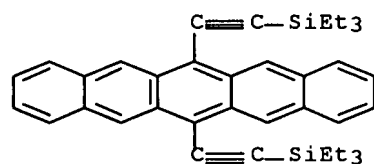
(organic semiconductor film forming method, organic semiconductor film and organic thin film transistor)

RN 373596-08-8 HCAPLUS

CN Pentacene, 6,13-bis[2-[tris(1-methylethyl)silyl]ethynyl]- (CA INDEX NAME)



RN 398128-81-9 HCAPLUS
 CN Pentacene, 6,13-bis[2-(triethylsilyl)ethynyl]- (CA INDEX NAME)



CC 76-3 (**Electric Phenomena**)
 Section cross-reference(s): 74
 IT **Electroluminescent devices**
 Thin film transistors
 (organic; organic semiconductor film forming method, organic semiconductor film and organic thin film transistor)
 IT **373596-08-8 398128-81-9** 565205-82-5 871310-68-8
 (organic semiconductor film forming method, organic semiconductor film and organic thin film transistor)
 REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L63 ANSWER 4 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2006:1344497 HCAPLUS Full-text

DOCUMENT NUMBER: 146:240356

TITLE: Thermal and mechanical cracking in bis(triisopropylsilylethynyl) pentacene thin films

AUTHOR(S): Chen, Jihua; Tee, Chee Keong; Yang, Junyan; Shaw, Charles; Shtein, Max; Anthony, John; Martin, David C.

CORPORATE SOURCE: Macromolecular Science and Engineering Center, University of Michigan, Ann Arbor, MI, 48109, USA

SOURCE: Journal of Polymer Science, Part B: Polymer Physics (2006), 44(24), 3631-3641
 CODEN: JPBPEM; ISSN: 0887-6266

PUBLISHER: John Wiley & Sons, Inc.

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 25 Dec 2006

AB Bis(triisopropylsilylethynyl) pentacene (TIPS pentacene) was synthesized to increase its solubility in common liquid solvents and, at the same time, enhance the π - π stacking between neighboring acenes in the crystallized state in comparison with unmodified pentacene. Hot-stage microscopy expts. revealed that during heating voids develop along the long axis of the TIPS pentacene

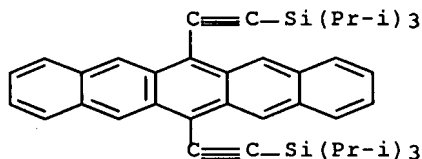
films {along the [210] direction/parallel to the (.hivin.1.hivin.2.hivin.0) planes} and crystals overlap along the short axis {along the [.hivin.1.hivin.2.hivin.0] direction/parallel to the (210) planes}. From mol. mechanics simulations, the predominant twin boundaries of (.hivin.1.hivin.2.hivin.0) and commonly observed cracking planes of (120), (.hivin.1.hivin.2.hivin.0), and (210) had relatively low surface energies in comparison with planes with similar Miller indexes. Organic thin-film transistors with TIPS pentacene as the active layer were fabricated, and the mobility values decreased from 0.4-1.0 cm²/V s before cracking to .apprx.0.2 cm²/V s after cracking. To maintain the high charge carrier mobility of TIPS pentacene devices, these cracks should be avoided.

IT 373596-08-8

(thermal and mech. cracking in bis(triisopropylsilylethynyl)
pentacene thin films)

RN 373596-08-8 HCAPLUS

CN Pentacene, 6,13-bis[2-[tris(1-methylethyl)silyl]ethynyl]- (CA INDEX
NAME)



CC 76-3 (Electric Phenomena)

IT 373596-08-8

(thermal and mech. cracking in bis(triisopropylsilylethynyl)
pentacene thin films)

REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN THE
RE FORMAT

L63 ANSWER 5 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2006:1047490 HCAPLUS Full-text

DOCUMENT NUMBER: 146:217367

TITLE: Field-effect transistors made by functionalized
pentacene with logic gate applications

AUTHOR(S): Park, J. G.; Vasic, R.; Brooks, J. S.; Anthony, J.
E.

CORPORATE SOURCE: National High Magnetic Field Laboratory, Florida
State University, Tallahassee, FL, 32310, USA

SOURCE: Journal of Low Temperature Physics (2006),
142(3/4), 387-392

CODEN: JLTPAC; ISSN: 0022-2291

PUBLISHER: Springer

DOCUMENT TYPE: Journal

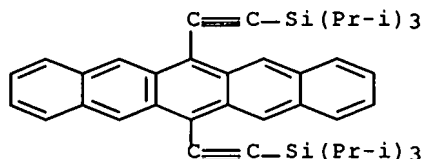
LANGUAGE: English

ED Entered STN: 09 Oct 2006

AB Functionalized pentacene, 6,13-bis(triisopropylsilylethynyl)pentacene (TIPS-pentacene), field-effect transistors (FET) were made by thermal evaporation or solution deposition methods and the temperature dependent mobility was measured. The field-effect mobility (μ_{FET}) activation energy is gate voltage dependent. At low gate voltage, activated conduction is dominant with E_a .apprx. 0.27 eV, slightly smaller than the bulk value, and the activation

energy decreases with increasing gate voltage. This is ascribed to traps in the film. A non-monotonic temperature dependence is observed at high gate voltage ($V_G < -30$ V) with E_a .apprx.60-170 meV at lower temps. below the mobility maximum Realization of simple logic gate circuits such as NOT (inverter), NOR, and NAND is demonstrated.

IT **373596-08-8**, 6,13-Bis(triisopropylsilylethynyl)pentacene
(field-effect transistors made by functionalized pentacene with logic gate applications)
RN 373596-08-8 HCAPLUS
CN Pentacene, 6,13-bis[2-[tris(1-methylethyl)silyl]ethynyl]- (CA INDEX NAME)



CC 76-3 (Electric Phenomena)
IT **Field effect transistors**
(field-effect transistors made by functionalized pentacene with logic gate applications)
IT **373596-08-8**, 6,13-Bis(triisopropylsilylethynyl)pentacene
(field-effect transistors made by functionalized pentacene with logic gate applications)
REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

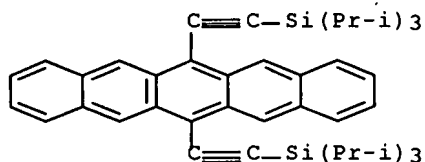
L63 ANSWER 6 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2006:934489 HCAPLUS Full-text
DOCUMENT NUMBER: 145:408263
TITLE: Characterization of functionalized pentacene field-effect transistors and its logic gate application
AUTHOR(S): Park, Jin Gyu; Vasic, Relja; Brooks, James S.; Anthony, John E.
CORPORATE SOURCE: National High Magnetic Field Laboratory, Florida State University, Tallahassee, FL, 32310, USA
SOURCE: Journal of Applied Physics (2006), 100(4), 044511/1-044511/6
CODEN: JAPIAU; ISSN: 0021-8979
PUBLISHER: American Institute of Physics
DOCUMENT TYPE: Journal
LANGUAGE: English

ED Entered STN: 12 Sep 2006

AB Functionalized pentacene, 6,13-bis(tri-isopropylsilylethynyl)pentacene (TIPS-pentacene), field-effect transistors (FETs) were made by both thermal evaporation and solution deposition methods, and the mobility was measured as a function of temperature and intensity of incident illumination. The field-effect mobility (μ_{FET}) has a gate-voltage dependent activation energy. A nonmonotonic temperature dependence was observed at high gate voltage ($V_G < -30$ V) with an activation energy of E_a .apprx.60-170 meV, depending on the fabrication procedure. The gate-voltage dependent mobility and nonmonotonic

temperature dependence indicate that shallow traps play important role in the transport of TIPS-pentacene films. The current in the saturation regime as well as the mobility increase upon light illumination in proportion to the light intensity, mainly due to the photoconductive response. Transistors with submicron channel length showed unsaturating current-voltage characteristics due to the short channel effect. Realization of simple circuits such as NOT (inverter), NOR, and NAND logic gates are demonstrated for thin film TIPS-pentacene transistors.

IT 373596-08-8, 6,13-Bis(tri-isopropylsilylethynyl)pentacene
(functionalized pentacene field-effect transistor and its logic gate application)
RN 373596-08-8 HCAPLUS
CN Pentacene, 6,13-bis[2-[tris(1-methylethyl)silyl]ethynyl]- (CA INDEX NAME)



CC 76-3 (**Electric** Phenomena)
IT Activation energy
Electric current-potential relationship
Electric field
Field effect transistors
Gate potential
(functionalized pentacene field-effect transistor and its logic gate application)
IT 373596-08-8, 6,13-Bis(tri-isopropylsilylethynyl)pentacene
(functionalized pentacene field-effect transistor and its logic gate application)
REFERENCE COUNT: 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L63 ANSWER 7 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2006:759225 HCAPLUS Full-text
DOCUMENT NUMBER: 145:366898
TITLE: Thermally Induced Solid-State Phase Transition of Bis(triisopropylsilylethynyl)pentacene Crystals
AUTHOR(S): Chen, Jihua; Anthony, John; Martin, David C.
CORPORATE SOURCE: Macromolecular Science and Engineering, Materials Science and Engineering, Biomedical Engineering, The University of Michigan, Ann Arbor, MI, 48109, USA
SOURCE: Journal of Physical Chemistry B (2006), 110(33), 16397-16403
CODEN: JPCBFK; ISSN: 1520-6106
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 03 Aug 2006

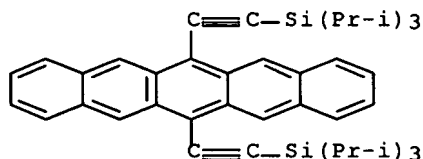
AB Bis(triisopropylsilylethynyl)pentacene (TIPS pentacene) is a functionalized pentacene derivative designed to enhance both the solution solubility and solid-state packing of pentacene. The authors report the authors' observations of a solid-state phase transition in TIPS pentacene crystals upon heating or cooling. Evidence from DSC, hot-stage optical microscopy, as well as high-temperature x-ray and electron diffraction are presented. A reasonable match with exptl. data was obtained with mol. modeling. The authors' results reveal that the transition is associated with a conformational reorganization of the TIPS side groups, accompanied by a slight decrease in the acene-to-acene spacing and a shift of the overlap between the neighboring pentacene units. The observed cracking should be avoided or minimized in TIPS pentacene-based thin film transistors to maintain their relatively high charge carrier mobility.

IT 373596-08-8

(thermally induced solid-state phase transition of
bis(triisopropylsilylethynyl)pentacene crystals)

RN 373596-08-8 HCAPLUS

CN Pentacene, 6,13-bis[2-[tris(1-methylethyl)silyl]ethynyl]- (CA INDEX NAME)



CC 75-7 (Crystallography and Liquid Crystals)
Section cross-reference(s): 29, 76

IT 373596-08-8

(thermally induced solid-state phase transition of
bis(triisopropylsilylethynyl)pentacene crystals)

REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN THE
RE FORMAT

L63 ANSWER 8 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2006:496013 HCAPLUS Full-text

DOCUMENT NUMBER: 144:499938

TITLE: Organic thin-film transistors and fabrication of
organic thin-film transistors

INVENTOR(S): Takemura, Chiyoko; Sugisaki, Reiko; Katakura, Rie;
Tanaka, Tatsuo; Hirai, Katsura; Kita, Hiroshi

PATENT ASSIGNEE(S): Konica Minolta Holdings, Inc., Japan

SOURCE: PCT Int. Appl., 35 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006054686	A1	20060526	WO 2005-JP21223	20051118
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA,				

CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
 GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM,
 KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG,
 MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT,
 RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT,
 TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
 RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU,
 IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR,
 BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD,
 TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
 ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

PRIORITY APPLN. INFO.:

JP 2004-334413

A 20041118

ED Entered STN: 26 May 2006

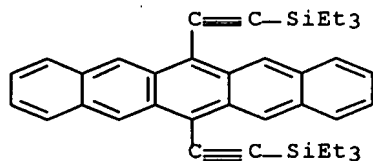
AB The title organic FET fabrication process involves coating on a substrate with a liquid material containing an organic semiconductor material and an aliphatic hydrocarbon. The coating process gives the organic FETs good and easy film formation and excellent transistor characteristics without coating defects.

IT 398128-81-9

(organic transistor coating material; organic thin-film transistors and fabrication of organic thin-film transistors)

RN 398128-81-9 HCAPLUS

CN Pentacene, 6,13-bis[2-(triethylsilyl)ethynyl]- (CA INDEX NAME)



CC 76-3 (Electric Phenomena)

Section cross-reference(s): 74

IT 398128-81-9 851817-11-3 871310-70-2

(organic transistor coating material; organic thin-film transistors and fabrication of organic thin-film transistors)

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR
 THIS RECORD. ALL CITATIONS AVAILABLE IN THE
 RE FORMAT

L63 ANSWER 9 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2006:288998 HCAPLUS Full-text

DOCUMENT NUMBER: 146:53000

TITLE: High mobility solution-processed OTFTs

AUTHOR(S): Park, Sung Kyu; Kuo, Chung-Chen; Anthony, John E.;
 Jackson, Thomas N.

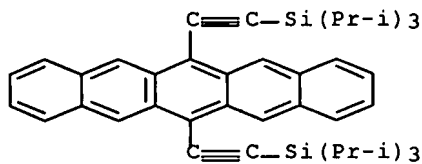
CORPORATE SOURCE: Center for Thin Film Devices and Materials
 Research Institute, Department of Electrical
 Engineering, Penn State University, University
 Park, PA, 16802, USA

SOURCE: Technical Digest - International Electron Devices
 Meeting (2005) 113-116

CODEN: TDIMD5; ISSN: 0163-1918

PUBLISHER: Institute of Electrical and Electronics Engineers

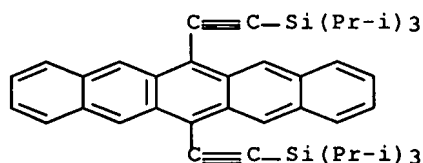
DOCUMENT TYPE: Journal
 LANGUAGE: English
 ED Entered STN: 29 Mar 2006
 AB Using bis(triisopropylsilylethynyl)pentacene (TIPS - pentacene), we have fabricated solution-processed OTFTs with mobility near 1.5 cm²/V · s. This is the highest mobility reported to date for solution-processed OTFTs. The organic semiconductor thin films used in these devices require no high temperature processing and also show remarkable mol. ordering, possibly related to the observed high mobility. This work demonstrates that solution processed OTFTs with characteristics similar to vacuum deposited devices are possible and provides a possible path to low-cost organic electronics processing.
 IT **373596-08-8**
 (fabrication of solution-processed organic thin film transistors using bis(triisopropylsilylethynyl)pentacene)
 RN 373596-08-8 HCAPLUS
 CN Pentacene, 6,13-bis[2-[tris(1-methylethyl)silyl]ethynyl]- (CA INDEX NAME)



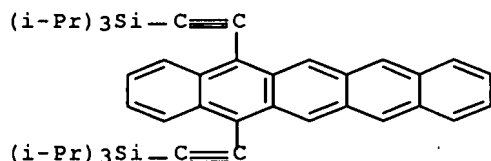
CC 76-3 (Electric Phenomena)
 IT **373596-08-8**
 (fabrication of solution-processed organic thin film transistors using bis(triisopropylsilylethynyl)pentacene)
 REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L63 ANSWER 10 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2006:118185 HCAPLUS Full-text
 DOCUMENT NUMBER: 144:330969
 TITLE: Clustering of Pentacene and Functionalized Pentacene Ions in a Matrix-Assisted Laser Desorption/Ionization Orthogonal TOF Mass Spectrometer
 AUTHOR(S): Shcherbyna, Svitlana V.; Bohme, Diethard K.; Baranov, Vladimir I.; Loboda, Alexander; Swartz, Christopher R.; Anthony, John E.
 CORPORATE SOURCE: Department of Physics and Astronomy, Department of Chemistry, Center for Research in Mass Spectrometry, York University, Toronto, ON, Can.
 SOURCE: Journal of the American Society for Mass Spectrometry (2006), 17(2), 222-229
 CODEN: JAMSEF; ISSN: 1044-0305
 PUBLISHER: Elsevier Inc.
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 ED Entered STN: 09 Feb 2006

- AB A high-performance orthogonal time-of flight (TOF) mass spectrometer, in combination with the matrix assisted laser desorption/ionization (MALDI) source operating at elevated pressure (.apprx.1 torr in N₂), was used to perform MALDI-TOF analyses of pentacene and some of its derivs. with and without an added matrix. These mols. are among the most interesting semiconductor materials for organic thin film transistor applications (OTFT). The observation of ion-mol. reactions between "cold" analyte ions and neutral analyte mols. in the gas phase has provided some insight into the mechanism of pentacene cluster formation and its functionalized derivs. Furthermore, some of the matrixes employed to assist the desorption/ionization process of these compds. were observed to influence the outcome via ion-mol. reactions of analyte ions and matrix mols. in the gas phase. The stability and reactivity of the compds. and their clusters in the MALDI plume during gas-phase expansion were evaluated; possible structures of the resulting clusters are discussed. The MALDI-TOF technique was also helpful in distinguishing between two isomeric forms of bis-[(triisopropylsilyl)-ethynyl]-pentacene.
- IT **373596-08-8**, 6,13-Bis(triisopropylsilylethynyl)pentacene
373596-09-9, 5,14-Bis(triisopropylsilylethynyl)pentacene
 (clustering of pentacene and functionalized pentacene ions in matrix-assisted laser desorption/ionization orthogonal TOF mass spectrometer)
- RN 373596-08-8 HCAPLUS
- CN Pentacene, 6,13-bis[2-[tris(1-methylethyl)silyl]ethynyl]- (CA INDEX NAME)



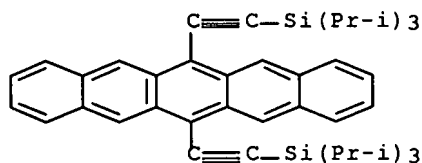
- RN 373596-09-9 HCAPLUS
- CN Silane, (5,14-pentacenediyl-di-2,1-ethynediyl)bis[tris(1-methylethyl)- (9CI) (CA INDEX NAME)]



- CC 22-8 (Physical Organic Chemistry)
 Section cross-reference(s): 73, 74, 76
- IT **373596-08-8**, 6,13-Bis(triisopropylsilylethynyl)pentacene
373596-09-9, 5,14-Bis(triisopropylsilylethynyl)pentacene
 859849-51-7 859849-52-8
 (clustering of pentacene and functionalized pentacene ions in matrix-assisted laser desorption/ionization orthogonal TOF mass spectrometer)

REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L63 ANSWER 11 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2005:1121340 HCAPLUS Full-text
 DOCUMENT NUMBER: 144:161242
 TITLE: Functionalized pentacene field-effect transistors with logic circuit applications
 AUTHOR(S): Park, Jin Gyu; Vasic, Relja; Brooks, James S.; Anthony, John E.
 CORPORATE SOURCE: National High Magnetic Field Laboratory, Florida State University, Tallahassee, FL, 32310, USA
 SOURCE: Los Alamos National Laboratory, Preprint Archive, Condensed Matter (2005) 1-16, arXiv:cond-mat/0510317, 12 Oct 2005
 CODEN: LNCMFR
 URL: <http://xxx.lanl.gov/pdf/cond-mat/>
 PUBLISHER: Los Alamos National Laboratory
 DOCUMENT TYPE: Preprint
 LANGUAGE: English
 ED Entered STN: 19 Oct 2005
 AB Functionalized pentacene, 6,13-bis(triisopropylsilylethynyl)pentacene (TIPS-pentacene), field-effect transistors(FETs) were made by thermal evaporation or solution deposition method and the mobility was measured as a function of temperature and light power. The field-effect mobility (μ FET) has a gate-voltage dependent activation energy. A non-monotonic temperature dependence was observed at high gate voltage ($V_G < -30$ V) with activation energy E_a .apprx. 60-170 meV, depending on the fabrication procedure. The gate-voltage dependent mobility and non-monotonic temperature dependence indicates that shallow traps play important role in the transport of TIPS-pentacene films. The current in the saturation regime as well as mobility increase upon light illumination and is proportional to the light intensity, mainly due to the photoconductive response. Transistors with submicron channel length showed un-saturating current-voltage characteristics due to the short channel effect. Realization of simple circuits such as NOT(inverter), NOR, and NAND logic gates are demonstrated for thin film TIPS-pentacene transistors.
 IT 373596-08-8, 6, 13-Bis(triisopropylsilylethynyl) pentacene (elec. and optical properties of 6, 13-bis(triisopropylsilylethynyl) pentacene field-effect transistors with logic circuit applications)
 RN 373596-08-8 HCAPLUS
 CN Pentacene, 6,13-bis[2-[tris(1-methylethyl)silyl]ethynyl]- (CA INDEX NAME)



CC 76-3 (Electric Phenomena)
 IT Activation energy
 Electric current-potential relationship

Field effect transistors

(elec. and optical properties of 6, 13-bis(triisopropylsilylethynyl) pentacene field-effect transistors with logic circuit applications)

IT 373596-08-8, 6, 13-Bis(triisopropylsilylethynyl) pentacene (elec. and optical properties of 6, 13-bis(triisopropylsilylethynyl) pentacene field-effect transistors with logic circuit applications)

REFERENCE COUNT: 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L63 ANSWER 12 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2005:1052229 HCAPLUS Full-text

DOCUMENT NUMBER: 144:118736

TITLE: Metal-organic pentacene derivative with well ordered morphology for the application of low voltage organic thin film transistors

AUTHOR(S): Roy, V. A. L.; Xu, Zong-Xiang; Zhi, Yong-gang; Yu, Sze-Chit; Che, Chi-Ming

CORPORATE SOURCE: Department of chemistry and the HKU-CAS Joint Laboratory on New Materials, The Univ. of Hong Kong, Hong Kong, SAR, Peop. Rep. China

SOURCE: Proceedings of SPIE-The International Society for Optical Engineering (2005), 5940(Organic Field-Effect Transistors IV), 59401L/1-59401L/7
CODEN: PSISDG; ISSN: 0277-786X

PUBLISHER: SPIE-The International Society for Optical Engineering

DOCUMENT TYPE: Journal

LANGUAGE: English

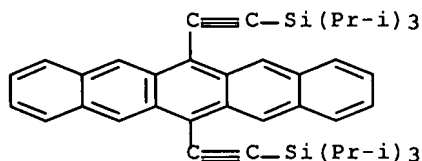
ED Entered STN: 02 Oct 2005

AB Metal organic pentacene based low voltage organic thin film transistors with field effect mobility as large as 0.8 cm²/V-1s-1 and on/off current ratio larger than 10⁶ have been fabricated. Thin films deposited by evaporation at different deposition rate has different morphol. which leads to a difference in transistor characteristics. The films with a deposition rate of 2 A/s has better morphol. and also the transistor behavior. AFM (atomic force microscope) and STM (scanning tunneling microscope) were used to understand the morphol. and ordering of the mols. on the Si surface which helps the transistor to operate at low voltages. The results presented here show a strong correlation between mol. ordering and the need of well-ordered films for the performance of organic thin film transistors (OTFT's).

IT 373596-08-8, 6,13-Bis(triisopropylsilylethynyl)pentacene (metal-organic pentacene derivative with well ordered morphol. for application of low voltage organic thin film transistors)

RN 373596-08-8 HCAPLUS

CN Pentacene, 6,13-bis[2-[tris(1-methylethyl)silyl]ethynyl]- (CA INDEX NAME)



CC 76-3 (**Electric** Phenomena)

IT **373596-08-8**, 6,13-Bis(triisopropylsilylethynyl)pentacene
(metal-organic pentacene derivative with well ordered morphol. for
application of low voltage organic thin film transistors)

REFERENCE COUNT: 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN THE
RE FORMAT

L63 ANSWER 13 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2005:985709 HCAPLUS Full-text

DOCUMENT NUMBER: 143:430737

TITLE: Persistent photoexcited conducting states in
functionalized pentacene

AUTHOR(S): Tokumoto, T.; Brooks, J. S.; Graf, D.; Choi, E.
S.; Biskup, N.; Eaton, D. L.; Anthony, J. E.;
Odom, S. A.

CORPORATE SOURCE: NHMFL/Physics, Florida State University,
Tallahassee, FL, 32310, USA

SOURCE: Synthetic Metals (2005), 152(1-3), 449-452

CODEN: SYMEDZ; ISSN: 0379-6779

PUBLISHER: Elsevier B.V.

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 09 Sep 2005

AB We report a study of long-lived photo-excited states in single crystals of
functionalized forms of pentacene: 6,13-
bis(triisopropylsilylethynyl)pentacene, 6,13-
bis(triethylsilylethynyl)pentacene, and 6,13-
bis(triethylgermylethynyl)pentacene, organic semiconductors with band gaps ≈ 1
eV. The relaxation rates are thermally activated, as determined from time and
temperature-dependent measurements of the photocond. after illumination.
These states can be produced in a stable population at temps. below 150 K.
Hence, after low temperature illumination, thermally stimulated current (TSC)
is observed as temperature increases. Trap energies associated with these
states can be estimated by anal. of the TSC signal.

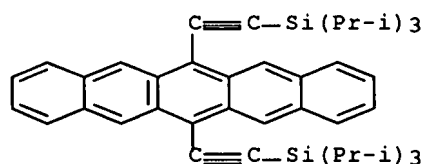
IT **373596-08-8**, 6,13-Bis(triisopropylsilylethynyl)pentacene

398128-81-9, 6,13-Bis(triethylsilylethynyl)pentacene

(persistent photoexcited conducting states in functionalized
pentacene)

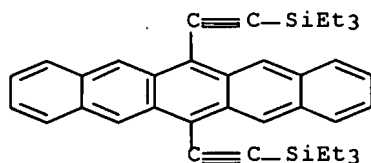
RN 373596-08-8 HCAPLUS

CN Pentacene, 6,13-bis[2-[tris(1-methylethyl)silyl]ethynyl]- (CA INDEX
NAME)



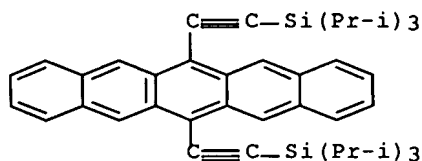
RN 398128-81-9 HCAPLUS

CN Pentacene, 6,13-bis[2-(triethylsilyl)ethynyl]- (CA INDEX NAME)



CC 76-5 (**Electric Phenomena**)
 IT **373596-08-8**, 6,13-Bis(triisopropylsilylethynyl)pentacene
398128-81-9, 6,13-Bis(triethylsilylethynyl)pentacene
 868405-97-4
 (persistent photoexcited conducting states in functionalized pentacene)
 REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L63 ANSWER 14 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2005:921283 HCAPLUS Full-text
 DOCUMENT NUMBER: 143:406224
 TITLE: Conjugated polymers containing large soluble diethynyl iptycenes
 AUTHOR(S): Zhao, Dahui; Swager, Timothy M.
 CORPORATE SOURCE: Department of Chemistry, Massachusetts Institute of Technology, Cambridge, MA, 02139, USA
 SOURCE: Organic Letters (2005), 7(20), 4357-4360
 CODEN: ORLEF7; ISSN: 1523-7060
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 143:406224
 ED Entered STN: 29 Aug 2005
 AB An efficient synthesis of large iptycenes appended with alkoxy and ethynyl substituents is reported. The rigid shape-persistent iptycene scaffold prevents interactions between the polymer backbones and can be used to solubilize polymers containing less soluble but readily accessible comonomers to prepare functional, solution-processible poly(p-phenyleneethynylene) (PPE)-conjugated polymers. These polymers are highly emissive in thin films without significant excimer/excimer formation as a result of the effective chain isolation enforced by the iptycene units.
 IT **373596-08-8**
 (preparation and absorption and fluorescence of conjugated polyphenyleneethynylene containing large soluble diethynyl iptycenes)
 RN 373596-08-8 HCAPLUS
 CN Pentacene, 6,13-bis[2-[tris(1-methylethyl)silyl]ethynyl]- (CA INDEX NAME)



CC 35-5 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 73

IT Absorption spectra

Fluorescence

(preparation and absorption and fluorescece of conjugated
polyphenyleneethynylene containing large soluble diethynyl iptycenes)
IT 106-51-4, 2,5-Cyclohexadiene-1,4-dione, reactions 392-57-4,
1,4-Diiodotetrafluorobenzene 638-45-9, n-Hexyl iodide 3519-82-2
116195-81-4, 2,5-Diiodopyridine **373596-08-8**

(preparation and absorption and fluorescece of conjugated
polyphenyleneethynylene containing large soluble diethynyl iptycenes)

REFERENCE COUNT: 41 THERE ARE 41 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN THE
RE FORMAT

L63 ANSWER 15 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2005:732726 HCAPLUS Full-text

DOCUMENT NUMBER: 143:219179

TITLE: Fluorescent semiconductive polymers and devices
comprising them and analytical methods using them

INVENTOR(S): Swager, Timothy M.; Kim, Youngmi

PATENT ASSIGNEE(S): Massachusetts Institute of Technology, USA

SOURCE: PCT Int. Appl., 87 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

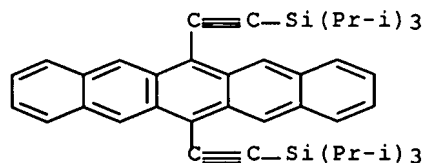
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005073338	A2	20050811	WO 2004-US40729	20041206
WO 2005073338	A3	20051208		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
US 2005196775	A1	20050908	US 2004-5634	20041206
PRIORITY APPLN. INFO.:			US 2003-526886P	P 20031204

ED Entered STN: 12 Aug 2005

AB Fluorescent semiconductive polymers are described which have a conjugated backbone and electron-withdrawing groups bonded to the polymer. Methods of detecting analytes (especially biol. analytes) are described which entail contacting an analyte with the fluorescent semiconductive polymer, thereby aggregating the polymer and, optionally, forming an emissive exciplex with a maximum emission wavelength which is not the same as the maximum emission wavelength of the polymer; and detecting the partial or complete quenching of the fluorescence of the polymer and/or the emission of the exciplex. **Light-**

emitting devices, photovoltaic devices, and sensors, including biosensors, comprising the fluorescent semiconductive polymers are also described.

IT **373596-08-8P**, 6,13-Bis(triisopropylsilylethynyl)pentacene
(fluorescent semiconductive polymers and devices comprising them
and anal. methods using them)
RN 373596-08-8 HCAPLUS
CN Pentacene, 6,13-bis[2-[tris(1-methylethyl)silyl]ethynyl]- (CA INDEX
NAME)



IC ICM C09K011-06
ICS C08G061-02; G01N033-53; H01L051-30; H01L031-00
CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related
Properties)
Section cross-reference(s): 9, 38, 76
ST **light emitting** device fluorescent semiconductive
polymer; photovoltaic device fluorescent semiconductive polymer;
sensor fluorescent semiconductive polymer; biosensor fluorescent
semiconductive polymer; fluorescent semiconductive polymer
IT **Electroluminescent devices**
Fluorescent indicators
Optical sensors
Photoelectric devices
(fluorescent **semiconductive** polymers and devices
comprising them and anal. methods using them)
IT 781-92-0P, 1,4-Dimethylantracene 2375-96-4P 4546-04-7P,
1,4-Xylenebisdiethylphosphonate 86703-79-9P 123524-59-4P
132877-69-1P 185446-05-3P 344404-39-3P 366008-67-5P
373596-08-8P, 6,13-Bis(triisopropylsilylethynyl)pentacene
660852-64-2P 660852-65-3P 660852-66-4P 660852-67-5P
660852-68-6P 660852-69-7P 847450-35-5P 847450-36-6P
847450-39-9P 862265-17-6P 862265-19-8P 862265-21-2P
862265-23-4P 862265-25-6P 862265-26-7P 862265-27-8P
862265-28-9P 862265-29-0P 862265-30-3P 862265-33-6P
862265-34-7P 862265-35-8P 862265-48-3P 862265-49-4P
862265-50-7P 862265-51-8P 862265-52-9P 862265-56-3P
(fluorescent semiconductive polymers and devices comprising them
and anal. methods using them)

L63 ANSWER 16 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2005:497080 HCAPLUS Full-text

DOCUMENT NUMBER: 143:51861

TITLE: Thin **film** transistor

INVENTOR(S): Takenobu, Hiroshi; Iwasa, Yoshihiro

PATENT ASSIGNEE(S): Japan Science and Technology Agency, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005150410	A	20050609	JP 2003-386114	20031117
			<--	
PRIORITY APPLN. INFO.:			JP 2003-386114	20031117
			<--	

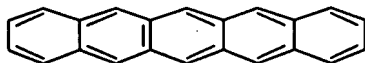
ED Entered STN: 10 Jun 2005

AB A stable thin **film** transistor having a high mobility comprises a gate electrode, a gate insulator **film** on the gate electrode, source and drain electrodes on the gate insulator **film**, and a semiconductor **film** of C nanotubes and their combination with other material between the source and drain electrodes. Specifically, the other material may comprise a fullerene, metal-containing fullerene.

IT **135-48-8**, Pentacene
(carbon nanotube thin **film** transistor)

RN 135-48-8 HCAPLUS

CN Pentacene (CA INDEX NAME)



IC ICM H01L029-786

ICS H01L029-06; H01L051-00

CC 76-3 (**Electric** Phenomena)

IT **Semiconductor films**

Thin **film** transistors

(carbon nanotube thin **film** transistor)

IT Fullerenes

Fullerides

Polyacetylenes, uses

(carbon nanotube thin **film** transistor)

IT Nanotubes

(carbon; carbon nanotube thin **film** transistor)

IT 210347-56-1, F 8T2

(F 8T2; carbon nanotube thin **film** transistor)

IT 81-30-1

(NTCDA; carbon nanotube thin **film** transistor)

IT 5690-24-4

(NTCDI; carbon nanotube thin **film** transistor)

IT 128-69-8

(PTCDA; carbon nanotube thin **film** transistor)

IT 18389-97-4, 11,11,12,12-Tetracyano-1,4-naphthoquinodimethane

(TCNNQ; carbon nanotube thin **film** transistor)

IT 996-70-3, Tetrakis(dimethylamino)ethylene

(TDAE; carbon nanotube thin **film** transistor)

IT 110-02-1D, Thiophene, 3-alkyl, homopolymers 128-65-4

135-48-8, Pentacene 574-93-6, Phthalocyanine 1081-34-1,

2,2':5',2''-Terthiophene 1518-16-7, TCNQ 9002-86-2, Polyvinyl

chloride 9002-88-4, Polyethylene 9002-98-6, PEI 9003-53-6,

Polystyrene 14916-87-1 25067-58-7, Polyacetylene 25233-34-5,

Poly-thiophene 29261-33-4 31366-25-3, TTF 55259-49-9, TMTSF

66280-99-7, Polythienylenevinylene 78151-58-3 88493-55-4,

α -Sexithiophene 97606-53-6 99685-96-8, [5,6]Fullerene-C60-Ih
 104934-50-1 105314-21-4 115383-22-7, [5,6]Fullerene-C70-D5h(6)
 132814-92-7, α - ω -Dihexyl-quaterthiophene 135113-15-4,
 Fullerene-C76 135113-16-5, Fullerene-C84 136316-32-0,
 Fullerene-C78 136846-59-8, Fullerene-C82 136846-62-3,
 Fullerene-C96 137433-42-2 146341-33-5 151271-43-1,
 α - ω -Dihexyl-sexithiophene 156669-23-7,
 α - ω -Dihexylquinquethiophene 268724-96-5 527680-51-9
 (carbon nanotube thin film transistor)

L63 ANSWER 17 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2005:353782 HCAPLUS Full-text

DOCUMENT NUMBER: 142:421659

TITLE: Protective **layer**-containing organic semiconductor field effect transistor and its manufacture

INVENTOR(S): Yan, Donghang; Yuan, Jianfeng; Yan, Xuanjun

PATENT ASSIGNEE(S): Changchun Institute of Applied Chemistry, Chinese Academy of Sciences, Peop. Rep. China

SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 10 pp.

CODEN: CNXXEV

DOCUMENT TYPE: Patent

LANGUAGE: Chinese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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CN 1437272	A	20030820	CN 2003-105024	20030303
			<--	
JP 2004266267	A	20040924	JP 2004-17237	20040126
			<--	
KR 2004078548	A	20040910	KR 2004-8308	20040209
			<--	
PRIORITY APPLN. INFO.:			CN 2003-105024	A 20030303
			<--	

ED Entered STN: 25 Apr 2005

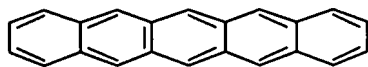
AB The organic semiconductor field effect transistor consists of a substrate, a gate electrode, a gate insulating **layer** on the gate electrode, 2 organic semiconductor **layers** on the gate insulating **layer**, a protective **layer** on the semiconductor **layer**, and a source/drain. The organic semiconductor **layer** is phthalocyanine Cu, phthalocyanine Ni, phthalocyanine Zn, phthalocyanine Co, phthalocyanine Pt, phthalocyanine, phthalocyanine vanadyl, phthalocyanine titanyl, polythiophene, naphthacene, pentacene, pyrene, pyrenedicarboxylic anhydride, fullerene, fluorinated phthalocyanine Cu, fluorinated phthalocyanine Zn, fluorinated phthalocyanine Fe, and/or fluorinated phthalocyanine Co. The protective **layer** is inorg. compound, organic compound, and/or polymer.

IT **135-48-8P**, Pentacene

(organic semiconductor field effect transistor containing protective **layer**)

RN 135-48-8 HCAPLUS

CN Pentacene (CA INDEX NAME)



IC ICM H01L051-20
ICS H01L051-40
CC 76-3 (**Electric** Phenomena)
IT Electric insulators
Field effect transistors
Semiconductor devices
Semiconductor films
(organic semiconductor field effect transistor containing protective layer)
IT Fluoropolymers, uses
Metallophthalocyanines
(organic semiconductor field effect transistor containing protective layer)
IT 147-14-8, Copper phthalocyanine
(organic semiconductor field effect transistor containing protective layer)
IT 92-24-0P, Naphthacene 129-00-0P, Pyrene, uses **135-48-8P**,
Pentacene 574-93-6P, Phthalocyanine 1314-61-0P, Tantalum(V) oxide
3317-67-7P, Cobalt Phthalocyanine 7440-25-7P, Tantalum, uses
9002-89-5P, Polyvinyl alcohol 13930-88-6P, Vanadyl Phthalocyanine
14055-02-8P, Nickel Phthalocyanine 14075-08-2P, Platinum
Phthalocyanine 14320-04-8P, Zinc Phthalocyanine 25233-34-5P,
Polythiophene 26201-32-1P, Titanyl Phthalocyanine 76895-43-7P,
3H,5H-Pyreno[1,10-cd]pyran-3,5-dione 99685-96-8P, Fullerene
(organic semiconductor field effect transistor containing protective layer)

L63 ANSWER 18 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:281871 HCAPLUS Full-text
DOCUMENT NUMBER: 142:346735
TITLE: Field effect type organic transistor and process
for production thereof
INVENTOR(S): Nakamura, Shinichi
PATENT ASSIGNEE(S): Canon Kabushiki Kaisha, Japan
SOURCE: PCT Int. Appl., 39 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005029605	A1	20050331	WO 2004-JP13996	20040916

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W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA,
CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR,
KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX,
MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE,
SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC,
VN, YU, ZA, ZM, ZW
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW,

AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ,
 DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL,
 PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
 GW, ML, MR, NE, SN, TD, TG

JP 2005093921 A 20050407 JP 2003-328525 20030919
 <--
 US 2007034861 A1 20070215 US 2005-555374 20051102
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 PRIORITY APPLN. INFO.: JP 2003-328525 A 20030919
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 WO 2004-JP13996 W 20040916

ED Entered STN: 01 Apr 2005

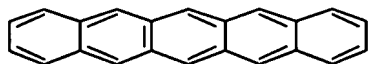
AB A field effect type organic transistor with high carrier mobility and on-off ratio is provided which comprises a source electrode, a drain electrode, and a gate electrode, a gate insulating **layer**, and an organic semiconductor **layer**, wherein the gate insulating **layer** contains an optical anisotropic material having an anisotropic structure formed by light irradiation, and the organic semiconductor **layer** is in contact with the anisotropic structure.

IT **135-48-8, Pentacene**

(field effect type organic transistor and fabrication)

RN 135-48-8 HCAPLUS

CN Pentacene (CA INDEX NAME)



IC ICM H01L051-20

ICS H01L051-40

CC 76-3 (**Electric** Phenomena)

Section cross-reference(s): 73, 74

ST org FET optical anisotropic **film**

IT Optical **films**

(anisotropic; field effect type organic transistor and fabrication)

IT Dielectric **films**

Field effect transistors

Gate contacts

Isomerization

Polarized light

(field effect type organic transistor and fabrication)

IT Anisotropic materials

(optical **films**; field effect type organic transistor and fabrication)

IT **Semiconductor films**

(organic; field effect type organic transistor and fabrication)

IT 91-64-5D, Coumarin, derivs. 94-41-7D, Chalcone, derivs. 103-33-3D, Azobenzene, derivs. **135-48-8, Pentacene** 147-14-8, Copper phthalocyanine 16786-36-0D, Cinnamoyl, derivs. 104934-50-1, Poly(3-hexylthiophene) 126213-51-2 147237-94-3 177856-50-7 244064-38-8 848154-35-8 848678-53-5

(field effect type organic transistor and fabrication)

REFERENCE COUNT:

2

THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L63 ANSWER 19 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2005:248993 HCAPLUS Full-text

DOCUMENT NUMBER: 142:473485

TITLE: Organic Field-Effect Transistors from
Solution-Deposited Functionalized Acenes with
Mobilities as High as 1 cm²/V·sAUTHOR(S): Payne, Marcia M.; Parkin, Sean R.; Anthony, John
E.; Kuo, Chung-Chen; Jackson, Thomas N.CORPORATE SOURCE: Department of Chemistry, University of Kentucky,
Lexington, KY, 40506-0055, USASOURCE: Journal of the American Chemical Society (2005),
127(14), 4986-4987

CODEN: JACSAT; ISSN: 0002-7863

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 23 Mar 2005

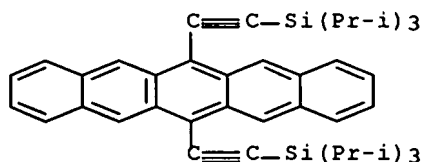
AB The authors present the device parameters for organic field-effect transistors fabricated from solution-deposited films of functionalized pentacene and anthradithiophenes. These materials are easily prepared in one or two steps from com. available starting materials and are purified by simple recrystn. For a solution-deposited film of functionalized pentacene, hole mobility of 0.17 cm²/V·s was measured. The functionalized anthradithiophenes showed behavior strongly dependent on the substituents, with hole mobilities ≤1.0 cm²/V·s.

IT 373596-08-8

(device parameters for organic field-effect transistors fabricated from solution-deposited films of functionalized pentacenes and anthradithiophenes)

RN 373596-08-8 HCAPLUS

CN Pentacene, 6,13-bis[2-[tris(1-methylethyl)silyl]ethynyl]- (CA INDEX NAME)



CC 76-3 (Electric Phenomena)

Section cross-reference(s): 25, 28

IT Drain current

Electric current-potential relationship

Field effect transistors

Hole mobility

(device parameters for organic field-effect transistors fabricated from solution-deposited films of functionalized pentacenes and anthradithiophenes)

IT 373596-08-8 775324-33-9 775324-34-0 851817-11-3

851817-12-4 851817-13-5 851817-14-6

(device parameters for organic field-effect transistors fabricated from solution-deposited films of functionalized pentacenes and anthradithiophenes)

REFERENCE COUNT: 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR

THIS RECORD. ALL CITATIONS AVAILABLE IN THE
RE FORMAT

L63 ANSWER 20 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:239279 HCAPLUS Full-text
DOCUMENT NUMBER: 142:308086
TITLE: Vertical organic field effect transistor
INVENTOR(S): Yang, Yang; Ma, Liping
PATENT ASSIGNEE(S): The Regents of the University of California, USA
SOURCE: PCT Int. Appl., 37 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005024907	A2	20050317	WO 2004-US27579	20040824
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WO 2005024907	A3	20050915		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CA 2537198	A1	20050317	CA 2004-2537198	20040824
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EP 1668716	A2	20060614	EP 2004-782136	20040824
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R: DE, FR, GB				
CN 1875496	A	20061206	CN 2004-80030945	20040824
<--				
JP 2007504650	T	20070301	JP 2006-524815	20040824
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US 2006284230	A1	20061221	US 2006-569755	20060224
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PRIORITY APPLN. INFO.:			US 2003-498925P	P 20030829
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			US 2004-546480P	P 20040219
			WO 2004-US27579	W 20040824

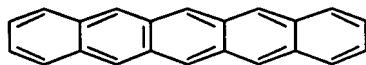
ED Entered STN: 18 Mar 2005

AB A vertical organic field effect transistor that includes an active cell and a capacitor that share a common source electrode. The active cell includes a semiconductor layer that is sandwiched between a drain electrode and the common source electrode. The capacitor includes a dielec. layer that is sandwiched between a gate electrode and the common source electrode. The common source electrode allows control of elec. current between the source and drain electrodes by controlling the elec. potential that is applied to the gate electrode.

IT 135-48-8, Pentacene

(vertical organic field effect transistor integrated circuit)

RN 135-48-8 HCAPLUS
 CN Pentacene (CA INDEX NAME)



IC ICM H01L
 CC 76-3 (Electric Phenomena)
 Section cross-reference(s): 73
 IT Capacitors
 Electroluminescent devices
 Field effect transistors
 Gate contacts
 Integrated circuits
 (vertical organic field effect transistor integrated circuit)
 IT **135-48-8**, Pentacene 148-24-3, 8-Hydroxyquinoline, processes
 7429-90-5, Aluminum, processes 7440-50-8, Copper, processes
 7789-24-4, Lithium fluoride, processes 99685-96-8, Fullerene
 (vertical organic field effect transistor integrated circuit)

L63 ANSWER 21 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2005:141434 HCAPLUS Full-text

DOCUMENT NUMBER: 142:252286

TITLE: Field effect transistor for use in semiconductor devices

INVENTOR(S): Schroder, Raoul; Grell, Martin

PATENT ASSIGNEE(S): The University of Sheffield, UK

SOURCE: PCT Int. Appl., 38 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005015653	A1	20050217	WO 2004-GB3428	20040809
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GB 2404785	A	20050209	GB 2003-18522	20030807
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GB 2406437	A	20050330	GB 2004-6334	20040322
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PRIORITY APPLN. INFO.:

GB 2003-18522

A 20030807

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GB 2004-6334

A 20040322

ED Entered STN: 18 Feb 2005

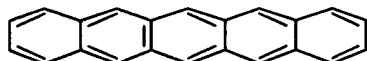
AB The present invention relates to field effect transistor comprising source and drain electrodes separated by a semiconductor body region, and a gate electrode separated from the semiconductor body region by a gate insulator region, in which the gate insulator region comprises a noncryst., preferably solution-processed, organic like material. Also, the present invention also relates to a method of fabricating a field effect transistor comprising the following steps: (a) forming a gate electrode; (b) forming a gate insulator region; (c) forming a semiconductor body region separated from the gate electrode by the gate insulator region; and (d) forming source and drain electrodes separated from each other by the semiconductor body region, such that the gate insulator region comprises a solution processed non crystalline organic like material. A transistor in accordance with an embodiment of the present invention can be used in memory devices to store 1 bit per 1 component and the memory is permanent but re-writable. Such transistors also have application in devices such as smart cards, liquid crystal displays, and organic **light emitting** displays.

IT 135-48-8, Pentacene

(field effect transistor for use in semiconductor devices)

RN 135-48-8 HCAPLUS

CN Pentacene (CA INDEX NAME)



IC ICM H01L051-20

ICS H01L021-28; H01L021-316

CC 76-3 (Electric Phenomena)

Section cross-reference(s): 38, 73, 74

IT Conducting polymers

Dielectric films

Electric contacts

Electroluminescent devices

Gate contacts

Liquid crystal displays

Semiconductor device fabrication

Semiconductor memory devices

(field effect transistor for use in semiconductor devices)

IT **Field effect transistors**

(organic; field effect transistor for use in semiconductor devices)

IT 135-48-8, Pentacene 25718-70-1 25805-74-7, MXD 6

(field effect transistor for use in semiconductor devices)

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN THE
RE FORMAT

L63 ANSWER 22 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:944077 HCAPLUS Full-text

DOCUMENT NUMBER: 142:122907

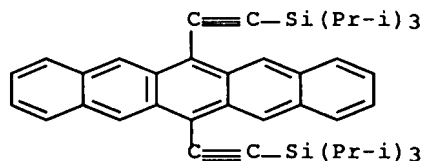
TITLE: Photochemical Stability of Pentacene and a
Substituted Pentacene in Solution and in Thin

Films
 AUTHOR(S): Maliakal, Ashok; Raghavachari, Krishnan; Katz, Howard; Chandross, Edwin; Siegrist, Theo
 CORPORATE SOURCE: Bell Laboratories, Lucent Technologies, Murray Hill, NJ, 07974, USA
 SOURCE: Chemistry of Materials (2004), 16(24), 4980-4986
 CODEN: CMATEX; ISSN: 0897-4756
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English

ED Entered STN: 09 Nov 2004

AB The organic semiconductor pentacene (1) has shown the highest field effect mobilities in thin films of any organic semiconductor, yet suffers from instability toward oxidation. 6,13-Bis(triisopropylsilylethynyl)pentacene (2) has been reported as an interesting functionalized pentacene which is soluble in common organic solvents and exhibits high carrier mobility ($>0.1 \text{ cm}^2/\text{Vs}$) in thin film transistor devices. In our investigations of 2, we were surprised by its remarkable stability in solution. Using UV-vis spectroscopy we observe that under ambient light conditions, 2 is approx. 50+ more stable toward degradation in air-saturated THF solution as compared to unsubstituted pentacene. Previous investigators have implicated oxygen in the mechanism of photodegradation of pentacene. In this study, quantum chemical calculations have been performed which demonstrate that alkynyl functionalization at the 6 and 13 positions reduces the rate of photooxidation in two ways. First, alkynyl substitution reduces the triplet energy of 2 considerably, thereby preventing singlet oxygen sensitization. Second, alkynyl substitution lowers the LUMO energy for 2 as compared to that of pentacene. We propose that the lower LUMO energy hinders photooxidation by reducing the rate of electron transfer from photoexcited 2 to oxygen. In thin films, pentacene is more stable to photooxidation than 2 when exposed to UV irradiation. The stabilization of pentacene in the solid state is discussed in the context of solid-state interactions.

IT **373596-08-8**, 6,13-Bis(triisopropylsilylethynyl)pentacene
 (photochem. stability of pentacene and substituted pentacene in solution and in thin films)
 RN 373596-08-8 HCAPLUS
 CN Pentacene, 6,13-bis[2-[tris(1-methylethyl)silyl]ethynyl]- (CA INDEX NAME)



CC 74-1 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 76

IT 135-48-8, Pentacene **373596-08-8**, 6,13-Bis(triisopropylsilylethynyl)pentacene
 (photochem. stability of pentacene and substituted pentacene in solution and in thin films)

REFERENCE COUNT: 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE

RE FORMAT

L63 ANSWER 23 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2004:801864 HCAPLUS Full-text
 DOCUMENT NUMBER: 141:305724
 TITLE: Organic thin-**film** transistors and
 fabrication of TFTs thereof
 INVENTOR(S): Katakura, Toshie; Hirai, Katsura; Fukuda,
 Mitsuhiro; Kita, Hiroshi
 PATENT ASSIGNEE(S): Konica Minolta Holdings, Inc., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 14 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
JP 2004273677	A	20040930	JP 2003-61194	20030307
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PRIORITY APPLN. INFO.:			JP 2003-61194	20030307
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OTHER SOURCE(S): MARPAT 141:305724

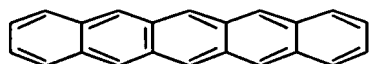
ED Entered STN: 01 Oct 2004

AB The title fabrication involves (1) forming a gate contact and a gate insulator **film** on a substrate, (2) forming on the gate insulator **film** with an acene precursor compounded with protonate-detaching group, and (3) heating the substrate to give the acene precursor into an acene semiconductor **film**. The process provides the TFTs with high carrier mobility at high productivity.

IT **135-48-8P**, Pentacene
 (carrier mobility in, organic semiconductor **film**; organic thin-**film** transistors and fabrication of TFTs from acene precursors)

RN 135-48-8 HCAPLUS

CN Pentacene (CA INDEX NAME)

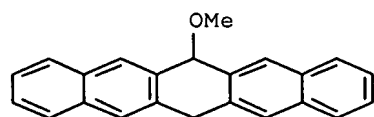


IT **757971-44-1P**

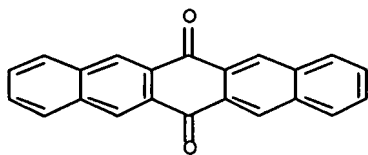
(organic thin-**film** transistors and fabrication of TFTs from acene precursors)

RN 757971-44-1 HCAPLUS

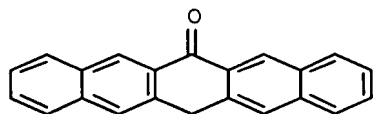
CN Pentacene, 6,13-dihydro-6-methoxy- (9CI) (CA INDEX NAME)



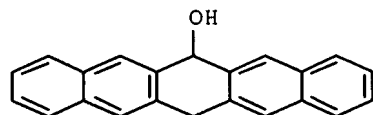
IT 3029-32-1, 6,13-Pentacenedione 408311-42-2,
 6(13H)-Pentacenone 757971-43-0
 (organic thin-film transistors and fabrication of TFTs from
 acene precursors)
 RN 3029-32-1 HCAPLUS
 CN 6,13-Pentacenedione (CA INDEX NAME)



RN 408311-42-2 HCAPLUS
 CN 6(13H)-Pentacenone (CA INDEX NAME)



RN 757971-43-0 HCAPLUS
 CN 6-Pentacenol, 6,13-dihydro- (CA INDEX NAME)



IC ICM H01L029-786
 ICS H01L051-00
 CC 76-3 (**Electric** Phenomena)
 Section cross-reference(s): 25
 ST pentacene acene org semiconductor **film** precursor heating TFT
 IT Heating
 (acene precursors; organic thin-film transistors and
 fabrication of TFTs from acene precursors)
 IT **Semiconductor films**
 (acenes, fabrication by heating precursor; organic thin-film
 transistors and fabrication of TFTs from acene precursors)
 IT Electric current carriers
 (mobility; organic thin-film transistors and fabrication of
 TFTs from acene precursors)
 IT Polyacenes
 (organic semiconductor; organic thin-film transistors and
 fabrication of TFTs from acene precursors)

IT Thin film transistors
 (p-channel enhancement; organic thin-film transistors and
 fabrication of TFTs from acene precursors)

IT 135-48-8P, Pentacene
 (carrier mobility in, organic semiconductor film; organic thin-
 film transistors and fabrication of TFTs from acene
 precursors)

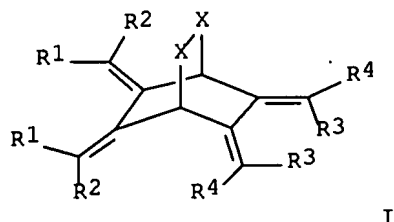
IT 757971-44-1P
 (organic thin-film transistors and fabrication of TFTs from
 acene precursors)

IT 3029-32-1, 6,13-Pentacenedione 408311-42-2,
 6(13H)-Pentacenone 757971-43-0
 (organic thin-film transistors and fabrication of TFTs from
 acene precursors)

L63 ANSWER 24 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2004:757059 HCAPLUS Full-text
 DOCUMENT NUMBER: 141:287235
 TITLE: Organic field effect transistor and method for
 producing the same
 INVENTOR(S): Miyazaki, Hajime; Miura, Daisuke; Nakayama,
 Tomonari; Uno, Hidemitsu; Ono, Noboru
 PATENT ASSIGNEE(S): Canon Kabushiki Kaisha, Japan
 SOURCE: PCT Int. Appl., 52 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

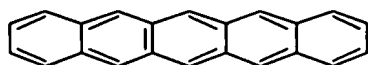
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004079834	A1	20040916	WO 2004-JP2449	20040227
<--				
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
JP 2004266157	A	20040924	JP 2003-56144	20030303
<--				
US 2006081880	A1	20060420	US 2005-542807	20050720
<--				
PRIORITY APPLN. INFO.:			JP 2003-56144	A 20030303
<--				
			WO 2004-JP2449	W 20040227

OTHER SOURCE(S): MARPAT 141:287235
 ED Entered STN: 16 Sep 2004
 GI



AB There is provided a method for producing a field effect transistor with a high field-effect mobility using a simple method for forming an organic semiconductor **layer**. A method for producing an organic field effect transistor comprising an organic semiconductor **layer**, comprising a step of forming the organic semiconductor **layer** by the photodecompn. of a bicyclic compound containing in a mol. thereof at least one bicyclic ring represented by formula I: wherein R1 and R3 each denotes a group for forming an aromatic ring or a heteroarom. ring which may have a substituent, together with a group to be bonded to R1 or R3; R2 and R4 each denotes a H atom, an alkyl group, an alkoxy group, an ester group or a Ph group; and X is a leaving group which denotes carbonyl group or -N =.

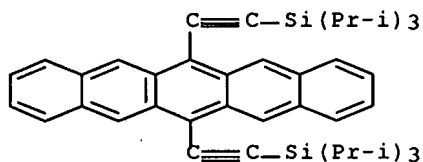
IT **135-48-8P**, Pentacene
(organic FET from)
RN 135-48-8 HCAPLUS
CN Pentacene (CA INDEX NAME)



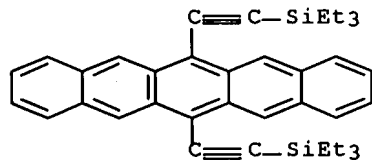
IC ICM H01L051-30
CC 76-3 (**Electric** Phenomena)
Section cross-reference(s): 22
IT **Field effect transistors**
Photolysis
Semiconductor device fabrication
(fabrication of organic FETs by photolysis of synthesized bicyclo compound)
IT **Semiconductor films**
(organic; fabrication of organic FETs by photolysis of synthesized bicyclo compound)
IT **135-48-8P**, Pentacene
(organic FET from)
REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L63 ANSWER 25 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:728194 HCAPLUS Full-text
DOCUMENT NUMBER: 141:404182
TITLE: Persistent photoexcited conducting states in functionalized pentacene
AUTHOR(S): Brooks, J. S.; Tokumoto, T.; Choi, E.-S.; Graf,

D.; Biskup, N.; Eaton, D. L.; Anthony, J. E.; Odom, S. A.
 CORPORATE SOURCE: NHMFL and Physics Department, Tallahassee, Florida
 State University, FL, 32310, USA.
 SOURCE: Journal of Applied Physics (2004), 96(6), 3312-3318
 CODEN: JAPIAU; ISSN: 0021-8979
 PUBLISHER: American Institute of Physics
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 ED Entered STN: 07 Sep 2004
 AB The authors report a study of long-lived photoexcited states in single crystals of functionalized forms of pentacene: the 6,13-bis(triisopropylsilylethynyl)pentacene and the 6,13-bis(triethylsilylethynyl)pentacene. These materials are organic semiconductors with band gaps in the range ≈ 1 eV. The relaxation rate of these states is thermally activated, as determined from time- and temperature-dependent measurements of the photocond. after illumination, and these states can be produced in a stable population at temps. < 150 K. Consequently, after the low-temperature illumination, thermally stimulated current (TSC) is observed in the dark current with an increasing temperature. Anal. of the TSC signal allows estimation of energies associated with the excited states. Possible mechanisms for the current associated with the photoexcited states are discussed, and preliminary iodine-doped studies of the material are also presented.
 IT 373596-08-8, 6,13-Bis(triisopropylsilylethynyl)pentacene
 398128-81-9, 6,13-Bis(triethylsilylethynyl)pentacene
 (persistent photoexcited conducting states in functionalized pentacene derivs.)
 RN 373596-08-8 HCAPLUS
 CN Pentacene, 6,13-bis[2-[tris(1-methylethyl)silyl]ethynyl]- (CA INDEX NAME)



RN 398128-81-9 HCAPLUS
 CN Pentacene, 6,13-bis[2-(triethylsilyl)ethynyl]- (CA INDEX NAME)



CC 76-5 (Electric Phenomena)

IT 373596-08-8, 6,13-Bis(triisopropylsilylethynyl)pentacene
 398128-81-9, 6,13-Bis(triethylsilylethynyl)pentacene
 (persistent photoexcited conducting states in functionalized
 pentacene derivs.)

REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR
 THIS RECORD. ALL CITATIONS AVAILABLE IN THE
 RE FORMAT

L63 ANSWER 26 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:473184 HCAPLUS Full-text

DOCUMENT NUMBER: 141:44854

TITLE: Use of energy source to convert precursors into
 patterned semiconductors

INVENTOR(S): Afzali-Ardakani, Ali; Hamann, Hendrik F.; Lacey,
 James A.; Medeiros, David R.; Chaudhari, Praveen;
 Von Gutfeld, Robert J.

PATENT ASSIGNEE(S): International Business Machines Corporation, USA

SOURCE: U.S. Pat. Appl. Publ., 17 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 2004110093	A1	20040610	US 2002-314607	20021209
			<--	
US 7176484	B2	20070213		
PRIORITY APPLN. INFO.:			US 2002-314607	20021209
			<--	

OTHER SOURCE(S): MARPAT 141:44854

ED Entered STN: 11 Jun 2004

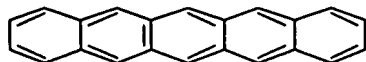
AB The present invention provides a substrate having a patterned small mol.
 organic semiconductor layer. The substrate with the patterned small mol.
 organic semiconductor layer is prepared by exposing a region of a substrate
 having a film of a precursor of a small organic mol. to energy from an energy
 source to convert the film of a precursor of a small organic mol. to a
 patterned small mol. organic semiconductor layer. The object of the present
 invention is to overcome the problems of the prior art by providing a method
 and system for producing a maskless patterned small mol. organic semiconductor
 layer on a substrate from a precursor of the small mol. organic semiconductor.
 The present invention provides a method of producing a substrate with a
 patterned small mol. organic semiconductor layer from a precursor with
 dimensions as small as one micron in width. These large crystallite
 semiconductor layers have relatively large mobilities, and the resulting
 semiconducting patterning capability has applications in photonic and
 microelectronic devices such as organic photodiodes and organic **light emitting**
 diodes.

IT 135-48-8, Pentacene

(use of energy source to convert precursors into patterned
 semiconductors)

RN 135-48-8 HCAPLUS

CN Pentacene (CA INDEX NAME)



IC ICM G03C005-56
ICS G03F007-09
INCL 430311000; 430271100; 430273100; 430302000; 430434000; 430484000;
430944000; 430945000
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other
Reprographic Processes)
Section cross-reference(s): 76
IT **Electroluminescent devices**
(displays; use of energy source to convert precursors into
patterned semiconductors)
IT **Luminescent screens**
(electroluminescent; use of energy source to convert precursors
into patterned semiconductors)
IT **Field effect transistors**
Lithography
(use of energy source to convert precursors into patterned
semiconductors)
IT **135-48-8, Pentacene**
(use of energy source to convert precursors into patterned
semiconductors)
REFERENCE COUNT: 39 THERE ARE 39 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN THE
RE FORMAT

L63 ANSWER 27 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:472943 HCAPLUS Full-text
DOCUMENT NUMBER: 141:32323
TITLE: System and method of transfer printing an organic
semiconductor
INVENTOR(S): Afzali-Ardakani, Ali; Hamann, Hendrik F.;
Chaudhari, Praveen; Von Gutfeld, Robert J.
PATENT ASSIGNEE(S): International Business Machines Corporation, USA
SOURCE: U.S. Pat. Appl. Publ., 23 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent.
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

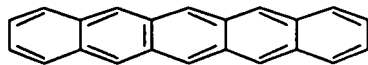
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
US 2004108047	A1	20040610	US 2002-314632	20021209
			<--	
US 6918982	B2	20050719		
US 2005081984	A1	20050421	US 2004-959938	20041006
			<--	
PRIORITY APPLN. INFO.:			US 2002-314632	A3 20021209
			<--	

ED Entered STN: 11 Jun 2004

AB The present invention provides a substrate having thereon a patterned small
mol. organic semiconductor layer. The present invention also provides a
method and a system for producing a substrate having thereon a patterned small
mol. organic semiconductor layer. The substrate having thereon a patterned
small mol. organic semiconductor layer is produced by exposing a donor
substrate having thereon a small mol. organic semiconductor layer to energy to
cause the thermal transfer of a small organic mol. onto an acceptor substrate.
IT **135-48-8, Pentacene**

(transfer printing of organic semiconductor film on substrate)

RN 135-48-8 HCAPLUS
 CN Pentacene (CA INDEX NAME)

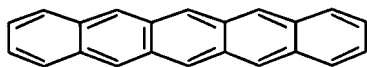


IC ICM B44C001-165
 INCL 156230000; 156540000; 427146000; 428914000
 CC 76-3 (Electric Phenomena)
 Section cross-reference(s): 48, 66, 74
 IT **Semiconductor films**
 (organic; transfer printing of organic semiconductor film on substrate)
 IT **Electroluminescent devices**
Field effect transistors
 (transfer printing of organic semiconductor film on substrate for)
 IT **135-48-8, Pentacene**
 (transfer printing of organic semiconductor film on substrate)
 REFERENCE COUNT: 44 THERE ARE 44 CITED REFERENCES AVAILABLE FOR
 THIS RECORD. ALL CITATIONS AVAILABLE IN THE
 RE FORMAT

L63 ANSWER 28 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2004:412310 HCAPLUS Full-text
 DOCUMENT NUMBER: 140:416160
 TITLE: Organic thin **film** transistor
 INVENTOR(S): Hirai, Katsura
 PATENT ASSIGNEE(S): Konica Minolta Holdings Inc., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	---	-----	-----	-----
JP 2004146575	A	20040520	JP 2002-309483	20021024
			<--	
PRIORITY APPLN. INFO.:			JP 2002-309483	20021024
			<--	

ED Entered STN: 21 May 2004
 AB An organic thin **film** transistor comprises an organic semiconductor **layer** prepared by a photothermal method for heat treating an organic precursor. Specifically, the organic semiconductor **layer** may comprise pentacene.
 IT **135-48-8, Pentacene**
 (organic thin **film** transistor fabricated by photothermal heat treatment for forming semiconductor **layer**)
 RN 135-48-8 HCAPLUS
 CN Pentacene (CA INDEX NAME)



IC ICM H01L029-786
ICS H01L051-00
CC 76-3 (**Electric** Phenomena)
ST org TFT semiconductor **film** photothermal heat treatment
IT **Semiconductor films**
(organic thin **film** transistor fabricated by photothermal
heat treatment for forming semiconductor **layer**)
IT Carbon black, uses
(organic thin **film** transistor fabricated by photothermal
heat treatment for forming semiconductor **layer**)
IT Heat treatment
(photothermal; organic thin **film** transistor fabricated by
photothermal heat treatment for forming semiconductor **layer**
)
IT **135-48-8**, Pentacene
(organic thin **film** transistor fabricated by photothermal
heat treatment for forming semiconductor **layer**)
IT 23178-67-8 108961-97-3 239089-14-6
(organic thin **film** transistor fabricated by photothermal
heat treatment for forming semiconductor **layer**)

L63 ANSWER 29 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:287046 HCAPLUS Full-text

DOCUMENT NUMBER: 140:313310

TITLE: **Organic semiconductor
film** formation of polynuclear benzenoid
cycloaddition products for manufacture of
semiconductor devices

INVENTOR(S): Okuyama, Tomoyuki

PATENT ASSIGNEE(S): Seiko Epson Corp., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 22 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

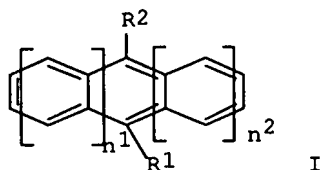
PATENT INFORMATION:

PATENT NO. -----	KIND ---	DATE -----	APPLICATION NO. -----	DATE -----
JP 2004107216	A	20040408	JP 2002-268614 <--	20020913
TW 230478	B	20050401	TW 2003-92122388 <--	20030814
KR 2004030281	A	20040409	KR 2003-60111 <--	20030829
CN 1494171	A	20040505	CN 2003-158133 <--	20030912
US 2004087676	A1	20040506	US 2003-660554 <--	20030912
PRIORITY APPLN. INFO.:			JP 2002-268614 <--	A 20020913

OTHER SOURCE(S): MARPAT 140:313310

ED Entered STN: 08 Apr 2004

GI



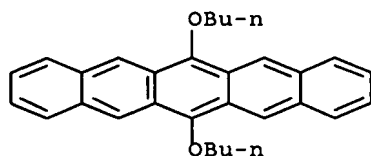
AB The **films** are formed by intermol. cycloaddn. of I with II [R1-R4 = groups having the number of atoms 1-18 and ≥ 1 atoms or groups chosen from H, halo, alkane, alkene, etc.; $n1-n4 \geq 0$; $(n1 + n2)$ and/or $(n3 + n4) \geq 2$] or intramol. cycloaddn. of III [X, Y = groups having the number of atoms 2-18 and ≥ 1 atoms or groups chosen from H, halo, alkane, alkene, etc.; $n11-n14 \geq 0$; $(n11 + n12)$ and/or $(n13 + n14) \geq 2$] by heat and/or light, applying (e.g., jet-printing) solns. of the cycloaddn. products IV or V, and removing **solvents** from the liquid **layers** by heat and/or light. The cycloaddn. products show good solubility in organic **solvents** without addnl. compds., resulting in high-purity **semiconductor films**.

IT 676464-25-8

(**organic semiconductor film** formation of polynuclear benzenoid cycloaddn. products by liquid process for manufacture of **semiconductor** devices)

RN 676464-25-8 HCAPLUS

CN Pentacene, 6,13-dibutoxy- (9CI) (CA INDEX NAME)



IC ICM C07C041-30

ICS C07C043-188; C07D493-04; H01L051-00

CC 76-3 (**Electric** Phenomena)

Section cross-reference(s): 25, 28

ST polynuclear benzenoid cycloaddn **semiconductor film** formation; **semiconductor** device polynuclear benzenoid cycloaddn; jet printing polynuclear benzenoid cycloaddn **semiconductor film**; butoxypentathene intermol cycloaddn **semiconductor film** formation

IT Ink-jet printing

Semiconductor devices

Semiconductor films

Semiconductor materials

(**organic semiconductor film** formation of polynuclear benzenoid cycloaddn. products by liquid process for manufacture of **semiconductor** devices)

IT 676464-26-9P 676464-28-1P

(organic semiconductor film formation of polynuclear benzenoid cycloaddn. products by liquid process for manufacture of semiconductor devices)

IT 676464-25-8 676464-27-0

(organic semiconductor film formation of polynuclear benzenoid cycloaddn. products by liquid process for manufacture of semiconductor devices)

IT 108-88-3, Toluene, uses

(solvents; organic semiconductor film formation of polynuclear benzenoid cycloaddn. products by liquid process for manufacture of semiconductor devices)

L63 ANSWER 30 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:113531 HCAPLUS Full-text

DOCUMENT NUMBER: 140:173369

TITLE: Design of a semiconductor device employing substituted pentacene compounds

INVENTOR(S): Anthony, John E.; Eaton, David L.; Parkin, Sean

PATENT ASSIGNEE(S): University of Kentucky Research Foundation, USA

SOURCE: U.S., 9 pp.

CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 6690029	B1	20040210	US 2002-143405	20020510
PRIORITY APPLN. INFO.:			US 2001-314968P	P 20010824

OTHER SOURCE(S): MARPAT 140:173369

ED Entered STN: 12 Feb 2004

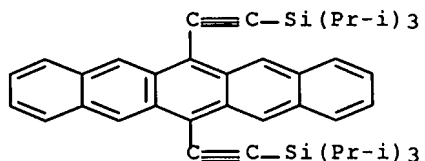
AB The invention relates to the design of a semiconductor device employing substituted pentacene compds., where the pentacenes are 6,13- or 5,14-substituted with acetylenic derivs.

IT 373596-08-8, Silane, (6,13-pentacenediyldi-2,1-ethynediyl)bis[tris(1-methylethyl)- 373596-09-9 398128-81-9, Silane, (6,13-pentacenediyldi-2,1-ethynediyl)bis[triethyl-

(design of semiconductor device employing substituted pentacene compds.)

RN 373596-08-8 HCAPLUS

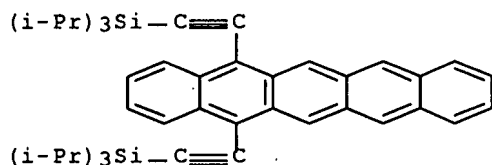
CN Pentacene, 6,13-bis[2-[tris(1-methylethyl)silyl]ethynyl]- (CA INDEX NAME)



RN 373596-09-9 HCAPLUS

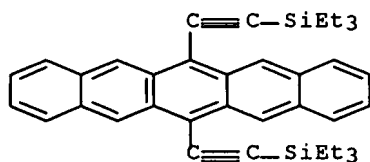
CN Silane, (5,14-pentacenediyldi-2,1-ethynediyl)bis[tris(1-methylethyl)-

(9CI) (CA INDEX NAME)



RN 398128-81-9 HCAPLUS

CN Pentacene, 6,13-bis[2-(triethylsilyl)ethynyl]- (CA INDEX NAME)



IC ICM H01L051-00

INCL 257040000; 257289000

CC 76-3 (**Electric** Phenomena)

Section cross-reference(s): 25

IT 373596-08-8, Silane, (6,13-pentacenediyl)-2,1-

ethynediyl)bis[tris(1-methylethyl)- 373596-09-9

398128-81-9, Silane, (6,13-pentacenediyl)-2,1-

ethynediyl)bis[triethyl- 398128-87-5 427879-51-4D, derivs.

655245-04-8D, derivs.

(design of semiconductor device employing substituted pentacene compds.)

REFERENCE COUNT:

9

THERE ARE 9 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN THE
RE FORMAT

L63 ANSWER 31 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:77186 HCAPLUS Full-text

DOCUMENT NUMBER: 140:137573

TITLE: Organic transistor, organic electronic device, and
fabrication of organic electronic device

INVENTOR(S): Fujisaki, Yoshiei; Iino, Yoshimi; Kikuchi, Hiroshi

PATENT ASSIGNEE(S): Japan Broadcasting Corp., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004031801	A	20040129	JP 2002-188190	20020627

PRIORITY APPLN. INFO.:

JP 2002-188190

20020627

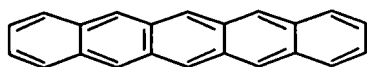
ED Entered STN: 30 Jan 2004

AB An organic electronic device comprises a substrate having ≥ 2 electrodes, ≥ 1 insulator **film** on the electrode(s), ≥ 1 first organic **film** having a high coating property on the insulator **film**(s), ≥ 1 s organic **film** having a hydrophobic group on the first organic **film**(s), and ≥ 1 organic semiconductor **film** on the second organic **film**(s). The electronic device has an insulator **film** having a superior insulating property and an organic semiconductor **film** promoting the growth of an organic mol. crystal. An organic transistor is also described, whose gate insulator **film** comprises an oxide, nitride, nitride oxide, fluoride, or diamondlike carbon.

IT 135-48-8, Pentacene
(insulator and semiconductor **films** of organic transistor and organic electronic device, and fabrication of organic electronic device)

RN 135-48-8 HCAPLUS

CN Pentacene (CA INDEX NAME)



IC ICM H01L029-786
ICS H01L021-312; H01L021-316; H01L051-00

CC 76-3 (**Electric** Phenomena)

ST org transistor electronic device fabrication insulator semiconductor **film**

IT Surfactants
(fluorosurfactants; insulator and semiconductor **films** of organic transistor and organic electronic device, and fabrication of organic electronic device)

IT Dielectric **films**
Electric apparatus
Electronic device fabrication
Semiconductor films
Transistors
(insulator and semiconductor **films** of organic transistor and organic electronic device, and fabrication of organic electronic device)

IT Fluorides, uses
Nitrides
Oxides (inorganic), uses
Oxynitrides
Polycarbonates, uses
(insulator and semiconductor **films** of organic transistor and organic electronic device, and fabrication of organic electronic device)

IT 7440-44-0, Carbon, uses
(diamondlike; insulator and semiconductor **films** of organic transistor and organic electronic device, and fabrication of organic electronic device)

IT 135-48-8, Pentacene 1314-61-0, Tantalum oxide 7440-25-7,
Tantalum, uses 9003-20-7, Poly(vinyl acetate) 12033-89-5, Silicon
nitride, uses
(insulator and semiconductor **films** of organic transistor and

organic electronic device, and fabrication of organic electronic device)

L63 ANSWER 32 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2003:1013507 HCAPLUS Full-text

DOCUMENT NUMBER: 140:190687

TITLE: Functionalized pentacene active layer organic thin-film transistors

AUTHOR(S): Sheraw, Chris D.; Jackson, Thomas N.; Eaton, Dave L.; Anthony, John E.

CORPORATE SOURCE: Center for Thin Film Devices and Electronic Materials and Processing Research Laboratory, Department of Electrical Engineering, The Pennsylvania State University, University Park, PA, 16801, USA

SOURCE: Advanced Materials (Weinheim, Germany) (2003), 15(23), 2009-2011

CODEN: ADVMEW; ISSN: 0935-9648

PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 31 Dec 2003

AB In order to improve pentacene-based organic thin film transition, the pentacene mol. is modified to form mol. crystals with increased π -orbital overlap. The approach reported is to add bulky functional groups at the 6,13-positions of the pentacene mol. to discourage edge-to-face mol. interaction. In addition to providing modified mol. ordering, the functional groups may also improve the solubility of the material in organic solvents, allowing solution-cast devices.

IT 317809-68-0, 6,13-Bis((trimethylsilyl)ethynyl)pentacene

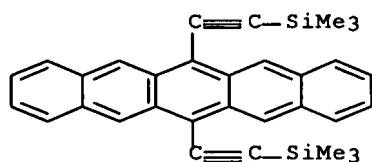
373596-08-8, 6,13-Bis((triisopropylsilyl)ethynyl)pentacene

398128-81-9, 6,13-Bis((triethylsilyl)ethynyl)pentacene

(functionalized pentacene active layer for improved organic thin-film transistors)

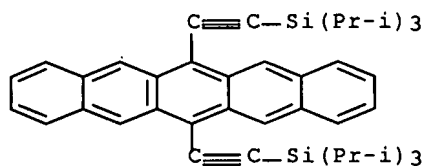
RN 317809-68-0 HCAPLUS

CN Silane, (6,13-pentacenediyl-di-2,1-ethynediyl)bis[trimethyl- (9CI) (CA INDEX NAME)

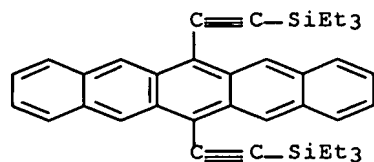


RN 373596-08-8 HCAPLUS

CN Pentacene, 6,13-bis[2-[tris(1-methylethyl)silyl]ethynyl]- (CA INDEX NAME)



RN 398128-81-9 HCAPLUS
 CN Pentacene, 6,13-bis[2-(triethylsilyl)ethynyl]- (CA INDEX NAME)



CC 76-3 (Electric Phenomena)
 IT 135-48-8, Pentacene **317809-68-0**, 6,13-Bis((trimethylsilyl)ethynyl)pentacene **373596-08-8**, 6,13-Bis((triisopropylsilyl)ethynyl)pentacene 398128-75-1 **398128-81-9**, 6,13-Bis((triethylsilyl)ethynyl)pentacene 658059-34-8
 (functionalized pentacene active layer for improved organic thin-film transistors)

REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L63 ANSWER 33 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2003:976855 HCAPLUS Full-text
 DOCUMENT NUMBER: 140:416081
 TITLE: Organic film FET and its manufacture
 INVENTOR(S): Dong, Guifang; Hu, Yuanchuan; Wang, Liduo; Qiu, Yong; Gao, Yudi
 PATENT ASSIGNEE(S): Tsinghua University, Peop. Rep. China
 SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 14 pp.
 CODEN: CNXXEV
 DOCUMENT TYPE: Patent
 LANGUAGE: Chinese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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CN 1348222	A	20020508	CN 2001-134676	20011109
			<--	
PRIORITY APPLN. INFO.:			CN 2001-134676	20011109
			<--	

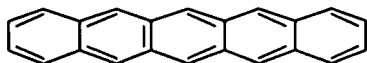
ED Entered STN: 15 Dec 2003

AB The FET consists of a first electrode close to the substrate, a second electrode, and a third electrode away from the substrate with an organic semiconductor **layer** and an insulation **layer** sandwiched between the first electrode and the third electrode and between the second electrode and the third electrode. The first electrode and the second electrode are parallel tripes in a comb-shaped clutch arrangement on a substrate. The insulation **layer** is made of polytetrafluoroethylene or polyimide, the first electrode and the second electrode are made of ITO, ZnO, Sn Zn oxide, or a metal having high work function such as Au, Cu, or Ag (preferably, ITO), the third electrode is made of a metal having high work function (Au, or Ag), and the organic semiconductor **layer** is made of phthalocyanine-type metallorg. compds., thiophene oligomer, or pentacene. The FET is manufactured by forming (e.g., by vapor deposition) a metal **layer** on an ITO glass substrate, forming the first electrode and the second electrode on the substrate with lithog. etching, forming an organic semiconductor **layer** on the electrode, forming an insulation **layer** on the semiconductor **layer**, and forming the third electrode on the insulation **layer**.

IT 135-48-8, Pentacene
(in fabrication of organic FET)

RN 135-48-8 HCAPLUS

CN Pentacene (CA INDEX NAME)



IC ICM H01L051-20
ICS H01L051-40; H01L051-30

CC 76-3 (**Electric** Phenomena)
Section cross-reference(s): 48

ST FET org **film** manuf

IT Dielectric **films**
Etching
Lithography
Semiconductor films
Vapor deposition process
(in fabrication of organic FET)

IT 135-48-8, Pentacene 147-14-8, Copper phthalocyanine
574-93-6D, Phthalocyanine, derivs., complexes 1314-13-2, Zinc oxide,
processes 7440-22-4, Silver, processes 7440-50-8, Copper,
processes 7440-57-5, Gold, processes 9002-84-0, Teflon
39467-17-9, Tin zinc oxide 50926-11-9, ITO
(in fabrication of organic FET)

L63 ANSWER 34 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2003:939726 HCAPLUS Full-text

DOCUMENT NUMBER: 141:97163

TITLE: Synthesis, properties, and device applications of functionalized acenes

AUTHOR(S): Anthony, John E.; Brooks, James S.; Eaton, David L.; Matson, Jason R.; Parkin, Sean R.

CORPORATE SOURCE: Department of Chemistry, Univ. of Kentucky, Lexington, KY, 40506, USA

SOURCE: Proceedings of SPIE-The International Society for Optical Engineering (2003), 5217(Organic Field Effect Transistors II), 124-132

CODEN: PSISDG; ISSN: 0277-786X

PUBLISHER: SPIE-The International Society for Optical Engineering

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 03 Dec 2003

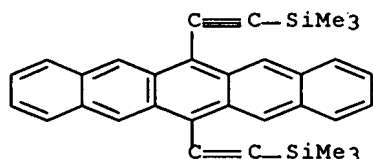
AB Face-to-face interactions of aromatic mols. in the crystalline state may prove to be the most relevant for materials destined to be used in thin-film transistor or photovoltaic applications. We have designed functionalized pentacene derivs. that maximize these interactions in the solid state. We present here a description of a number of pi-stacked crystalline motifs that we can access, along with a discussion of the dependence of resistivity and band gap on the nature and amount of pi-overlap in the crystal.

IT 317809-68-0 373596-08-8 398128-81-9

(crystal packing, electronic, and elec. properties of functionalized acenes)

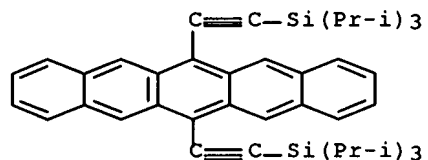
RN 317809-68-0 HCAPLUS

CN Silane, (6,13-pentacenediyl-di-2,1-ethynediyl)bis[trimethyl- (9CI) (CA INDEX NAME)



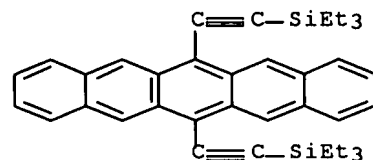
RN 373596-08-8 HCAPLUS

CN Pentacene, 6,13-bis[2-[tris(1-methylethyl)silyl]ethynyl]- (CA INDEX NAME)



RN 398128-81-9 HCAPLUS

CN Pentacene, 6,13-bis[2-(triethylsilyl)ethynyl]- (CA INDEX NAME)



CC 76-1 (Electric Phenomena)
 IT 317809-68-0 373596-08-8 398128-81-9
 398128-84-2

(crystal packing, electronic, and elec. properties of
 functionalized acenes)

REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR
 THIS RECORD. ALL CITATIONS AVAILABLE IN THE
 RE FORMAT

L63 ANSWER 35 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2003:939711 HCAPLUS Full-text

DOCUMENT NUMBER: 141:131874

TITLE: Poly-p-xylylene derivatives as non-solution
 processible gate dielectric materials for organic
 field effect transistor

AUTHOR(S): Yasuda, Takeshi; Fujita, Katsuhiko; Tsutsui,
 Tetsuo

CORPORATE SOURCE: Department of Applied Science for Electronics and
 Materials, Graduate School of Engineering, Kyushu
 Univ., Fukuoka, 816-8580, Japan

SOURCE: Proceedings of SPIE-The International Society for
 Optical Engineering (2003), 5217(Organic
 Field Effect Transistors II), 202-209
 CODEN: PSISDG; ISSN: 0277-786X

PUBLISHER: SPIE-The International Society for Optical
 Engineering

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 03 Dec 2003

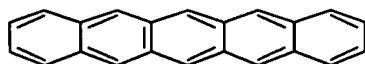
AB A flexible insulator **film** would be one of the most important elements of
 flexible organic field-effect transistors (OFETs). It should be produced from
 a soft organic material rather than a stiff inorg. material. Many polymeric
 materials were spin-coated from the solution and the resulted **films** have to be
 baked or cured to obtain a good insulator. Since those procedures impose a
 restriction on the OFETs, a fabrication process without using a **solvent** was
 desired. Poly-p-xylylene derivs. were made into an insulator **film** by a non-
solvent procedure, CVD (CVD). The insulator **film** has addnl. advantages,
 pinhole-free, resistance to many **solvents** and no thermal stress to a material
 beneath. We have fabricated and characterized OFETs with the inverted
 staggered geometry, substrate/gate electrode/poly-p-xylylene derivs./**organic**
semiconductor/source-drain electrodes. The CVD enables to form an insulator
film even above the **organic semiconductor**. We fabricated the staggered type
 configuration substrate/source-drain electrodes/ **organic semiconductor**/poly-
 chloro-p-xylylene/gate electrode. The device performance of a staggered type
 transistor indicated that the mol. arrangement of **organic semiconductor** at the
 insulator interface is more dominant than the damage or chemical deterioration
 due to the attack of the radicals during the CVD procedure.

IT 135-48-8, Pentacene

(poly-p-xylylene derivs. as non-solution processible gate dielec.
 materials for organic FET)

RN 135-48-8 HCAPLUS

CN Pentacene (CA INDEX NAME)



CC 76-3 (**Electric** Phenomena)
 Section cross-reference(s): 38
 IT **Field effect transistors**
 (organic; poly-p-xylylene derivs. as non-solution processible gate dielec. materials for organic FET)
 IT **Dielectric films**
 (poly-p-xylylene derivs. as non-solution processible gate dielec. materials for organic FET)
 IT 81-33-4, PTCDI **135-48-8**, Pentacene 147-14-8, Copper phthalocyanine 14916-87-1 138184-36-8, MEH-PPV
 (poly-p-xylylene derivs. as non-solution processible gate dielec. materials for organic FET)
 REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L63 ANSWER 36 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2003:892188 HCAPLUS Full-text
 DOCUMENT NUMBER: 139:371662
 TITLE: Organic **light emitting** devices
 based on the formation of an electron-hole plasma
 INVENTOR(S): Holmes, Russell James Delmar; Baldo, Marc A.; Forrest, Stephen R.
 PATENT ASSIGNEE(S): The Trustees of Princeton University, USA
 SOURCE: U.S. Pat. Appl. Publ., 34 pp.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2003209972	A1	20031113	US 2002-143354	20020510
			<--	
US 6970490	B2	20051129		
WO 2004001796	A2	20031231	WO 2003-US14060	20030506
			<--	
WO 2004001796	A3	20040715		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
AU 2003269821	A1	20040106	AU 2003-269821	20030506
			<--	
PRIORITY APPLN. INFO.:			US 2002-143354	A 20020510
			<--	
			WO 2003-US14060	W 20030506
			<--	

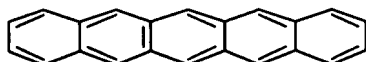
ED Entered STN: 14 Nov 2003

AB When the d. of excitons in an organic single crystal (including the linear acenes, polyacenes, and thiophenes) approaches the d. of mol. sites, an electron-hole plasma may form in the material altering the overall excitonic character of the system. The formation of the electron-hole plasma arises of the screening of Coulomb interactions within individual excitons by injected free carriers. The large exciton densities required to accomplish this screening process can only be realized when excitons collect near dislocations, defects, traps, or are confined in heterostructures. Such confinement and subsequently large exciton densities allows for the observation of phys. phenomena not generally accessible in an organic material. The formation of an electron-hole plasma in an organic single crystal can allow for the observation of field-effect transistor action and elec.-pumped lasing. Amorphous organic materials and polymeric organic materials can also used to sustain an electron-hole plasma and demonstrate similar phenomena as well.

IT 135-48-8, Pentacene
(in organic LEDs based on formation of electron-hole plasma)

RN 135-48-8 HCAPLUS

CN Pentacene (CA INDEX NAME)



IC ICM H05B033-00

INCL 313504000; X31-350.6

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 76

ST org **light emitting** electron hole plasma

IT Conducting polymers
(in organic LEDs based on formation of electron-hole plasma)

IT Fluoropolymers, uses
Polyacenes
Porphyrins
(in organic LEDs based on formation of electron-hole plasma)

IT Electron-hole plasma
(organic LEDs based on formation of)

IT **Field effect transistors**
Laser radiation
(organic LEDs based on formation of electron-hole plasma for)

IT **Electroluminescent devices**
(organic; based on formation of electron-hole plasma)

IT 25067-59-8, PVK
(PVK; in organic LEDs based on formation of electron-hole plasma)

IT 92-24-0, Tetracene 110-02-1D, Thiophene, derivs. 120-12-7, Anthracene, uses 135-48-8, Pentacene 574-93-6, Phthalocyanine 2085-33-8, Tris(8-hydroxyquinolinato)aluminum 7429-90-5, Aluminum, uses 7440-06-4, Platinum, uses 7440-21-3, Silicon, uses 7440-22-4, Silver, uses 7440-57-5, Gold, uses 7631-86-9, Silica, uses 7789-24-4, Lithium fluoride, uses 9002-84-0, PTFE 12033-89-5, Silicon nitride, uses 13463-67-7, Titania, uses 37271-44-6 50926-11-9, ITO 58328-31-7, CBP 96638-49-2, Poly(phenylene vinylene) 138184-36-8, MEH-PPV

(in organic **LEDs** based on formation of electron-hole plasma)

REFERENCE COUNT: 55 THERE ARE 55 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN THE
RE FORMAT

L63 ANSWER 37 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2003:774027 HCAPLUS Full-text
DOCUMENT NUMBER: 139:300175
TITLE: Side-gate-type organic FETs and organic EL devices
INVENTOR(S): Yahiro, Masayuki; Ishida, Kenji; Matsushige,
Kazumi
PATENT ASSIGNEE(S): Kansai Technology Licensing Organization Co.,
Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2003282884	A	20031003	JP 2002-86669	20020326
			<--	
PRIORITY APPLN. INFO.:			JP 2002-86669	20020326
			<--	

ED Entered STN: 03 Oct 2003

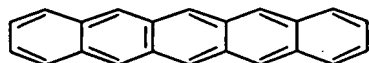
AB The FETs contain (a) gate electrodes on substrates, (b) organic semiconductor carrier transport layers, and (c) source and drain electrodes above and under the transport layers. Organic **EL** devices contain (a) ≥ 2 control electrodes on substrates, (b) **luminescent organic** semiconductor layers, (c) pairs of implantation electrode layers set above and under the semiconductor layers, and (d) **light-emittance** control circuits which apply opposite-polarity control voltage on the ≥ 2 electrodes.

IT **135-48-8, Pentacene**

(carrier transport layers for side-gate-type organic FETs and organic EL devices)

RN 135-48-8 HCAPLUS

CN Pentacene (CA INDEX NAME)



IC ICM H01L029-786

ICS H01L051-00; H05B033-14

CC 76-3 (Electric Phenomena)

Section cross-reference(s): 74

IT **Electroluminescent devices**
Field effect transistors

(organic; carrier transport layers for side-gate-type organic FETs and organic EL devices)

IT 109-27-3, Tetracene 120-12-7, Anthracene, uses **135-48-8**,
Pentacene 147-14-8, Copper(II) phthalocyanine 5521-31-3,
N,N'-Dimethylperylene-3,4,9,10 tetracarboxylic acid diimide

14916-87-1 88493-55-4, α -Sexithiophene

(carrier transport layers for side-gate-type organic FETs and organic EL devices)

L63 ANSWER 38 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2003:773485 HCAPLUS Full-text

DOCUMENT NUMBER: 140:312924

TITLE: Analysis and fabrication of **light-emitting** field-effect transistor based on pentacene

AUTHOR(S): Guo, Shu-xu; Liu, Jian-jun; Wang, Wei; Zhang, Su-mei; Shi, Jia-wei; Liu, Ming-da

CORPORATE SOURCE: State Key lab. Integrated Optoelectronics, Jilin Univ., Changchun, 130023, Peop. Rep. China

SOURCE: Faguang Xuebao (2003), 24(4), 417-420
CODEN: FAXUEW; ISSN: 1000-7032

PUBLISHER: Kexue Chubanshe

DOCUMENT TYPE: Journal

LANGUAGE: Chinese

ED Entered STN: 03 Oct 2003

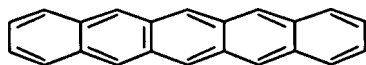
AB Organic thin-film transistors and electronics are of interest for low-cost high-information content displays, especially on flexible substrates, and for other large-area electronic applications. Ambipolar field-effect transistors, which operate as either n- or p-channel devices, depending on the polarity of the gate bias, can operate in a mixed or bipolar mode. They have been realized with amorphous silicon, organic semiconductor heterostructures, and organic single crystals. The authors report here on the structure and operating characteristics of an ambipolar organic **light-emitting** field-effect transistor based on a single crystal of pentacene. The electrons and holes are injected equally from the source and drain, resp., and the drain current can be controlled by the adjusting gate- and drain-source voltages. Excitons are generated, leading to radiative recombination. The authors grow the single crystal thin-film based on pentacene by phys. vapor deposition and fabricated organic field-effect transistor using it. The thickness of the film is about some few micrometer and the length is about some few millimeter. The proportion between the length and thickness is about 1000. By using polyimide as bond, the organic thin-film was tiled on the glass substrate. By a magnetic-controlled sputtering method, choosing appropriate conditions of sputtering, Al as source-drain electrode, Al₂O₃ as insulation layer, and Al as gate electrode were obtained. Then, the authors measured the I-V characteristics and discuss the **luminescence** principle about **organic** field-effect transistors. The most important two factors of the success are the use of an organic single crystal with high mobility and the employment of a field-effect structure to control the injection for the ambipolar organic **light-emitting** field-effect transistor.

IT 135-48-8, Pentacene

(anal. and fabrication of **light-emitting** field-effect transistor based on pentacene)

RN 135-48-8 HCAPLUS

CN Pentacene (CA INDEX NAME)



CC 76-5 (Electric Phenomena)
 ST pentacene **light emitting** FET transistor
 IT **Field effect transistors**
 (light-emitting; anal. and fabrication of
 light-emitting field-effect transistor based on
 pentacene)
 IT **135-48-8, Pentacene**
 (anal. and fabrication of **light-emitting**
 field-effect transistor based on pentacene)

L63 ANSWER 39 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2003:566712 HCAPLUS Full-text

DOCUMENT NUMBER: 139:284152

TITLE: Tetramethylpentacene: Remarkable absence of steric effect on field effect mobility

AUTHOR(S): Meng, Hong; Bendikov, Michael; Mitchell, Gregory; Helgeson, Roger; Wudl, Fred; Bao, Zhenan; Siegrist, Theo; Kloc, Christian; Chen, Cheng-Hsuan

CORPORATE SOURCE: Department of Chemistry and Biochemistry and Exotic Materials Institute, University of California, Los Angeles, CA, 90095-1569, USA

SOURCE: Advanced Materials (Weinheim, Germany) (2003), 15(13), 1090-1093

CODEN: ADVMEW; ISSN: 0935-9648

PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA

DOCUMENT TYPE: Journal

LANGUAGE: English

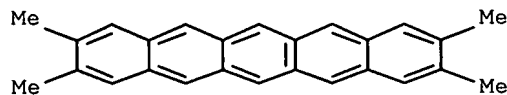
ED Entered STN: 24 Jul 2003

AB A new pentacene derivative, 2,3,9,10-tetramethyl-pentacene (Me4PENT), has been synthesized, characterized, and tested in a field-effect transistor (FET) device. A bottom-contact-mode FET device fabricated with Me4PENT was shown to exhibit a high charge-transport mobility of 0.31 cm²V⁻¹s⁻¹ when fabricated at a deposition substrate temperature of 85°C.

IT **499138-96-4P, 2,3,9,10-Tetramethyl-pentacene**
 (preparation of tetramethylpentacene and absence of steric effect on
 field effect mobility)

RN 499138-96-4 HCAPLUS

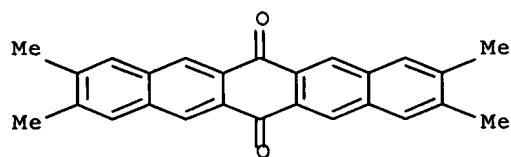
CN Pentacene, 2,3,9,10-tetramethyl- (CA INDEX NAME)



IT **607387-98-4**
 (preparation of tetramethylpentacene and absence of steric effect on
 field effect mobility)

RN 607387-98-4 HCAPLUS

CN 6,13-Pentacenedione, 2,3,9,10-tetramethyl- (9CI) (CA INDEX NAME)



CC 76-3 (Electric Phenomena)
 Section cross-reference(s): 65, 75

IT Band gap
 Crystal structure-property relationship
 Electric current-potential relationship
 Electron mobility
Field effect transistors
Fluorescence
 HOMO (molecular orbital)
 Ionization potential
 LUMO (molecular orbital)
 (preparation of tetramethylpentacene and absence of steric effect on field effect mobility)

IT **499138-96-4P**, 2,3,9,10-Tetramethyl-pentacene
 (preparation of tetramethylpentacene and absence of steric effect on field effect mobility)

IT 1971-69-3, Tris(cyclohexoxide)aluminum **607387-98-4**
 (preparation of tetramethylpentacene and absence of steric effect on field effect mobility)

REFERENCE COUNT: 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L63 ANSWER 40 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2003:472939 HCAPLUS Full-text

DOCUMENT NUMBER: 139:45745

TITLE: Design of a magnetoresistive element using an organic nonmagnetic layer

INVENTOR(S): Granstrom, Eric L.

PATENT ASSIGNEE(S): Seagate Technology LLC, USA

SOURCE: U.S. Pat. Appl. Publ., 14 pp.
 CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

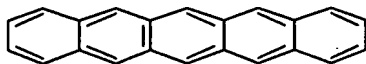
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2003112564	A1	20030619	US 2002-306384	20021127
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PRIORITY APPLN. INFO.:			US 2001-333624P	P 20011127
			<--	

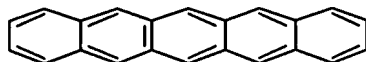
ED Entered STN: 20 Jun 2003

AB The invention relates to the design of a magnetoresistive element using an organic nonmagnetic layer. A magnetoresistive element has two magnetic layers and a nonmagnetic middle layer having organic mols. disposed between the two magnetic layers. The middle layer is thinner than 5 nm. The magnetoresistive element exhibits a magnetoresistive effect as a function of the relative alignment of magnetizations of the first and the second magnetic layers and is used in a magnetoresistive sensor.

IT 135-48-8, Pentacene 135-48-8D, Pentacene, derivs.
 (design of a magnetoresistive element using an organic nonmagnetic layer)
 RN 135-48-8 HCAPLUS
 CN Pentacene (CA INDEX NAME)



RN 135-48-8 HCAPLUS
 CN Pentacene (CA INDEX NAME)



IC ICM G11B005-127
 ICS G11B005-33
 INCL 360324120; 360324200
 CC 77-8 (Magnetic Phenomena)
 Section cross-reference(s): 21, 38, 76, 78
 IT Electrodeposition
 Heating
 Magnetic films
 Magnetic memory devices
 Magnetoresistors
 Self-assembled monolayers
Semiconductor films
 (design of a magnetoresistive element using an organic nonmagnetic layer)
 IT 92-24-0, Tetracene 92-24-0D, Tetracene, derivs. 129-00-0, Pyrene,
 uses 129-00-0D, Pyrene, derivs. 135-48-8, Pentacene
 135-48-8D, Pentacene, derivs. 191-07-1, Coronene
 191-07-1D, Coronene, derivs. 198-55-0, Perylene 198-55-0D,
 Perylene, derivs. 218-01-9, Chrysene 218-01-9D, Chrysene, derivs.
 (design of a magnetoresistive element using an organic nonmagnetic layer)

L63 ANSWER 41 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2003:377211 HCAPLUS Full-text
 DOCUMENT NUMBER: 138:377321
 TITLE: Organic thin **film** transistor with
 siloxane polymer interface
 INVENTOR(S): Kelley, Tommie W.; Boardman, Larry D.; Dunbar,
 Timothy D.; Jones, Todd D.; Muyres, Dawn V.;
 Pellerite, Mark J.; Smith, Terrance P.
 PATENT ASSIGNEE(S): 3M Innovative Properties Company, USA
 SOURCE: PCT Int. Appl., 21 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent

LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003041186	A2	20030515	WO 2002-US33999	20021023
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WO 2003041186	A3	20031120		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2003102472	A1	20030605	US 2001-12655	20011105
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US 6617609	B2	20030909		
AU 2002361575	A1	20030519	AU 2002-361575	20021023
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EP 1442487	A2	20040804	EP 2002-797052	20021023
<--				
EP 1442487	B1	20060920		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
CN 1582505	A	20050216	CN 2002-822190	20021023
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JP 2005509299	T	20050407	JP 2003-543118	20021023
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AT 340413	T	20061015	AT 2002-797052	20021023
<--				
PRIORITY APPLN. INFO.:			US 2001-12655	A 20011105
<--				
			WO 2002-US33999	W 20021023
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ED Entered STN: 16 May 2003

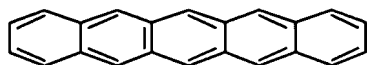
AB Provided is an organic thin **film** transistor with improved mobility comprising a siloxane polymeric **layer** interposed between a gate dielec. and an organic semiconductor **layer**. An integrated circuit comprising thin **film** transistors and methods of making a thin **film** transistor are also provided. The organic thin **film** transistors of the invention typically exhibit improvement in one or more transistor properties.

IT 135-48-8, Pentacene

(organic TFT with siloxane polymer interface)

RN 135-48-8 HCAPLUS

CN Pentacene (CA INDEX NAME)



CC 76-3 (**Electric** Phenomena)
 Section cross-reference(s): 38
 IT Coating process
 Integrated circuits
Semiconductor films
 Thin film transistors

(organic TFT with siloxane polymer interface)
 IT **135-48-8**, Pentacene 198-55-0, Perylene 574-93-6D,
 Phthalocyanine, derivs. 9016-00-6, Dimethylsiloxane, SRU
 14916-87-1 31900-57-9, Polydimethylsiloxane 88493-55-4,
 Sexithiophene 156048-34-9, Dimethylsiloxane-diphenylsiloxane
 copolymer 164662-84-4, Methylphenylsiloxane-diphenylsiloxane
 copolymer
 (organic TFT with siloxane polymer interface)

L63 ANSWER 42 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2003:377210 HCAPLUS Full-text

DOCUMENT NUMBER: 138:377320

TITLE: Organic thin film transistor with
 polymeric interface

INVENTOR(S): Kelley, Tommie W.; Boardman, Larry D.; Dunbar,
 Timothy D.; Jones, Todd D.; Muyres, Dawn V.;
 Pellerite, Mark J.; Smith, Terrance P.

PATENT ASSIGNEE(S): 3M Innovative Properties Company, USA

SOURCE: PCT Int. Appl., 32 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

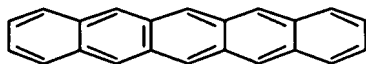
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

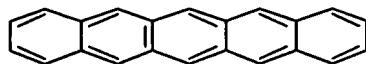
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003041185	A2	20030515	WO 2002-US33872	20021023
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WO 2003041185	A3	20031106		
W:			AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW	
RW:			GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG	
US 2003102471	A1	20030605	US 2001-12654	20011105
			<--	
US 6946676	B2	20050920		
AU 2002337959	A1	20030519	AU 2002-337959	20021023
			<--	
EP 1442484	A2	20040804	EP 2002-773864	20021023
			<--	
R:			AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK	
JP 2005509298	T	20050407	JP 2003-543117	20021023
			<--	
US 2006011909	A1	20060119	US 2005-227547	20050915
			<--	
PRIORITY APPLN. INFO.:			US 2001-12654	A 20011105

<--
 WO 2002-US33872 W 20021023
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ED Entered STN: 16 May 2003
 AB Provided is an organic thin **film** transistor with improved carrier mobility and low cost fabrication comprising a polymeric **layer** interposed between a gate dielec. and an organic semiconductor **layer**. Various homopolymers, copolymers, and functional copolymers are claimed for use in the polymeric **layer**. An integrated circuit comprising a multiplicity of thin **film** transistors and methods of making a thin **film** transistor are also provided. The organic thin **film** transistors of the invention typically exhibit improvement in one or more transistor properties.
 IT **135-48-8**, Pentacene **135-48-8D**, Pentacene, derivs.
 (organic thin **film** transistor with polymeric interface
 between gates and organic semiconductor **films**)
 RN **135-48-8** HCAPLUS
 CN Pentacene (CA INDEX NAME)



RN **135-48-8** HCAPLUS
 CN Pentacene (CA INDEX NAME)



IC ICM H01L051-20
 CC 76-3 (**Electric** Phenomena)
 Section cross-reference(s): 38
 IT Polymers, processes
 (aromatic; organic thin **film** transistor with polymeric
 interface between gates and organic semiconductor **films**)
 IT Integrated circuits
 Semiconductor films
 Thin **film** transistors
 (organic thin **film** transistor with polymeric interface
 between gates and organic semiconductor **films**)
 IT Fullerenes
 Polyacenes
 (organic thin **film** transistor with polymeric interface
 between gates and organic semiconductor **films**)
 IT Polymers, properties
 (organic thin **film** transistor with polymeric interface
 between gates and organic semiconductor **films**)
 IT Conducting polymers
 (polythiophenes, ooligomers; organic thin **film** transistor
 with polymeric interface between gates and organic semiconductor
 films)

IT Coating process
 (spin; organic thin **film** transistor with polymeric interface
 between gates and organic semiconductor **films**)

IT 74-86-2D, Acetylene, derivs. 13177-38-3, Cyclopentadienone
 (organic thin **film** transistor with polymeric interface
 between gates and organic semiconductor **films**)

IT 109-27-3, Tetracene 120-12-7, Anthracene, processes **135-48-8**
 , Pentacene **135-48-8D**, Pentacene, derivs. 198-55-0,
 Perylene 574-93-6, Phthalocyanine 9003-17-2, Polybutadiene
 9003-20-7, Polyvinyl acetate 9003-53-6, Polystyrene 9011-14-7,
 PMMA 9042-43-7, Polyvinyl naphthalene 14916-87-1 25036-01-5,
 Polyacenaphthylene 25038-76-0, Polynorbornene 25067-06-5,
 Poly(1-hexene) 25722-33-2, Parylene 88493-55-4, Sexithiophene
 95270-88-5, Polyfluorene
 (organic thin **film** transistor with polymeric interface
 between gates and organic semiconductor **films**)

IT 26949-20-2P, Styrene-3-methacryloxypropyltrimethoxysilane copolymer
 36785-89-4P, Styrene-3-mercaptopropyltrimethoxysilane copolymer
 76701-84-3P, Styrene-vinylphosphonic acid copolymer 252338-38-8P,
 5-Hexylnorbornene-5-(triethoxysilyl)norbornene copolymer
 (organic thin **film** transistor with polymeric interface
 between gates and organic semiconductor **films**)

L63 ANSWER 43 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2003:255085 HCAPLUS Full-text

DOCUMENT NUMBER: 138:246983

TITLE: **Organic semiconductor**
film preparation and use in field effect
 transistors

INVENTOR(S): Chowdhuri, Abhijit R.; Zhang, Jie; Gamota, Daniel
 R.

PATENT ASSIGNEE(S): Motorola, Inc., USA

SOURCE: U.S., 8 pp.

CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

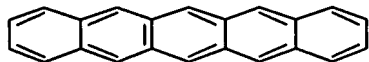
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6541300	B1	20030401	US 2002-58704	20020128
			<--	
WO 2003065409	A2	20030807	WO 2002-US41765	20021231
			<--	
WO 2003065409	A3	20031016		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH,			
	CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD,			
	GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ,			
	LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ,			
	NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ,			
	TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ,			
	BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,			
	EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR,			
	BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
EP 1472718	A2	20041103	EP 2002-794455	20021231
			<--	
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,			
	PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK			

AB The present invention is directed to **semiconductor films** and a process for their preparation. The **semiconductor organic** material is blended with a multicomponent **solvent** blend having a combined polarity within a defined range. The blend of **semiconductor organic** material and multicomponent **solvent** blend is effective for providing a highly ordered **semiconductor film** having an improved mobility and for providing a device having improved on/off ratio characteristics. The blend is deposited on a receiving material to provide a continuous highly ordered **film** having greater periodicity than **films** produced with a single **solvent/semiconducting** material blend under similar processing conditions.

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IC      ICM      H01L051-40
INCL   438099000; X25-7 4.0
CC      76-3 (Electric Phenomena)
ST      org semiconductor film field effect
        transistor
IT      Imides
        (diimides, tetracarboxylic acids, organic
        semiconductor material; organic
        semiconductor film preparation and use in field effect
        transistors)
IT      Semiconductor device fabrication
        Semiconductor films
        (organic semiconductor film preparation and
        use in field effect transistors)
IT      Polyanilines
        (organic semiconductor material; organic
        semiconductor film preparation and use in field effect
        transistors)
IT      Field effect transistors
        (organic; organic semiconductor
        film preparation and use in field effect transistors)
IT      Conducting polymers
        (polythiophenes, organic semiconductor material;
        organic semiconductor film preparation and use
        in field effect transistors)
IT      Carboxylic acids, uses
        (tetra, diimide-, organic semiconductor material;
        organic semiconductor film preparation and use

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- in field effect transistors)
- IT 75-20-7, Calcium carbide 7631-99-4, Sodium nitrate, uses
7647-14-5, Sodium chloride, uses 7778-54-3, Calcium hypochlorite
12712-38-8, Potassium borate 13840-56-7, Sodium borate 16893-85-9,
Sodium fluorosilicate
(multicomponent **solvent** blend containing; **organic**
semiconductor film preparation and use in field effect
transistors)
- IT 110134-47-9, Poly (3-hexylthiophene-2,5-diyl)
(**organic film solvent**; **organic**
semiconductor film preparation and use in field effect
transistors)
- IT 56-23-5, Carbontetrachloride, processes 64-17-5, Ethanol, processes
67-56-1, Methanol, processes 67-63-0, 2-Propanol, processes
67-64-1, Acetone, processes 67-66-3, Chloroform, processes
71-23-8, 1-Propanol, processes 71-36-3, 1-Butanol, processes
71-43-2, Benzene, processes 75-09-2, Methylene chloride, processes
75-65-0, t-Butanol, processes 78-93-3, 2-Butanone, processes
108-88-3, Toluene, processes 109-99-9, Tetrahydrofuran, processes
1330-20-7, Xylene, processes
(**organic film solvent**; **organic**
semiconductor film preparation and use in field effect
transistors)
- IT 91-20-3D, Naphthalene, dithiophene derivs. 110-02-1D, Thiophene,
anthracene derivs. 110-02-1D, Thiophene, naphthalene derivs.
120-12-7D, Anthracene, 2,3,6,7-Tetracarboxylic acid diimide derivs.
120-12-7D, Anthracene, dithiophene derivs. **135-48-8**,
Pentacene 574-93-6D, Phthalocyanine, derivs. 66280-99-7,
Poly(thienylenevinylene) 96638-49-2, Poly(phenylenevinylene)
(**organic semiconductor** material; **organic**
semiconductor film preparation and use in field effect
transistors)

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN THE
RE FORMAT

L63 ANSWER 44 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2003:154660 HCAPLUS Full-text
DOCUMENT NUMBER: 138:197055
TITLE: Organic semiconductor components with
pentacene-coated transistor films
INVENTOR(S): Minakata, Takashi
PATENT ASSIGNEE(S): Asahi Kasei Kabushiki Kaisha, Japan
SOURCE: PCT Int. Appl., 67 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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WO 2003016599	A1	20030227	WO 2002-JP8070	20020807
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH,			
	CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD,			
	GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ,			
	LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ,			
	NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ,			
	TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE,			

BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU,
 MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
 GW, ML, MR, NE, SN, TD, TG

AU 2002327354	A1	20030303	AU 2002-327354	20020807
EP 1416069	A1	20040506	EP 2002-760569	20020807
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
CN 1541288	A	20041027	CN 2002-815611	20020807
US 2005258417	A1	20051124	US 2004-486276	20040209
US 7061010	B2	20060613		
PRIORITY APPLN. INFO.:			JP 2001-242808	A 20010809
			WO 2002-JP8070	W 20020807

OTHER SOURCE(S): MARPAT 138:197055

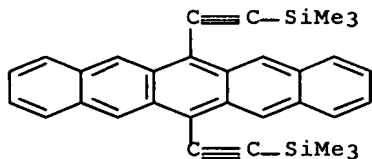
ED Entered STN: 28 Feb 2003

AB An organic semiconductor thin film suitably employed in electronics, photonics, or bioelectronics and a method for forming the thin films thereof. An organic semiconductor solution as the material in formation of the organic semiconductor thin film, and an organic semiconductor component employing the organic semiconductor thin film are also provided. The transistor is obtained by forming a gate electrode, an insulator layer, a source electrode, and drain electrodes sequentially on a glass substrate and then applying o-dichlorobenzene solution of pentacene (0.05% by mass) and drying thereby forming an organic semiconductor thin film. Since the organic semiconductor thin film can be formed easily at a low cost and has substantially no defect, a transistor having excellent electronic characteristics can be provided.

IT **317809-68-0P**, 6,13-Bis(trimethylsilylethynyl)pentacene
373596-08-8P, 6,13-Bis(triisopropylsilylethynyl)pentacene
 (semiconductor thin film; organic semiconductor components prepared by coating with pentacene-coated transistor films)

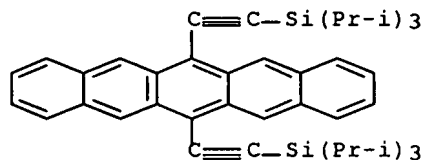
RN 317809-68-0 HCAPLUS

CN Silane, (6,13-pentacenediyl-di-2,1-ethynediyl)bis[trimethyl- (9CI) (CA INDEX NAME)



RN 373596-08-8 HCAPLUS

CN Pentacene, 6,13-bis[2-[tris(1-methylethyl)silyl]ethynyl]- (CA INDEX NAME)



IC ICM C30B029-54
 ICS C30B007-06; H01L029-786; H01L051-00
 CC 76-3 (**Electric** Phenomena)
 Section cross-reference(s): 25
 IT 25038-59-9P, Polyethylene terephthalate, properties 76727-11-2P,
 6,13-Diphenylpentacene **317809-68-0P**, 6,13-
 Bis(trimethylsilylethynyl)pentacene **373596-08-8P**,
 6,13-Bis(triisopropylsilylethynyl)pentacene 499138-96-4P,
 2,3,9,10-Tetramethylpentacene 499138-97-5P 499138-98-6P
 499138-99-7P 499139-00-3P 499139-01-4P 499139-02-5P
 (semiconductor thin film; organic semiconductor components prepared by
 coating with pentacene-coated transistor films)
 REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR
 THIS RECORD. ALL CITATIONS AVAILABLE IN THE
 RE FORMAT

L63 ANSWER 45 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2003:83146 HCAPLUS Full-text
 DOCUMENT NUMBER: 138:329681
 TITLE: Mobile ionic impurities in organic semiconductors
 AUTHOR(S): Rep, D. B. A.; Morpurgo, A. F.; Sloof, W. G.;
 Klapwijk, T. M.
 CORPORATE SOURCE: Department of NanoScience, Faculty of Applied
 Sciences, Delft University of Technology, Delft,
 2628 CJ, Neth.
 SOURCE: Journal of Applied Physics (**2003**),
 93(4), 2082-2090
 CODEN: JAPIAU; ISSN: 0021-8979
 PUBLISHER: American Institute of Physics
 DOCUMENT TYPE: Journal
 LANGUAGE: English

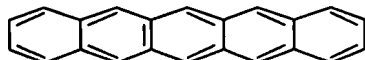
ED Entered STN: 03 Feb 2003

AB The authors study the stability in time of the current-voltage characteristics of organic thin-film devices on glass substrates. The authors find for poly(3-hexylthiophene) and for pentacene that the resistance of the devices gradually changes under the application of an elec. bias depending on the Na content of the glass substrates used in the experiment. For devices on a very common type of glass (with a Na₂O content of .apprx.6%) and on soda-lime glass (14% Na₂O) substrates, the prolonged application of a voltage bias results in a substantial decrease (up to two orders of magnitude) of the bulk and contact resistances, whereas for Na-free glass substrates the gradual changes in current-voltage characteristics are much smaller. A systematic study of the elec. behavior complemented by chemical anal. shows that the instabilities observed are due to Na⁺ ions diffusing from the substrate into the organic film, and moving inside the organic material as a result of the applied elec. field. The authors' results show in detail how ion motion in organic materials results in substantial hysteresis and device instabilities.

IT **135-48-8**, Pentacene
 (stability in time of current-voltage characteristics of organic thin-film devices on glass substrates)

RN 135-48-8 HCAPLUS

CN Pentacene (CA INDEX NAME)



CC 76-3 (**Electric** Phenomena)
 Section cross-reference(s): 57, 66

ST glass substrate sodium diffusion doping pentacene polyhexylthiophene
 current voltage; semiconductor org **film** sodium doping glass
 substrate current voltage

IT Borosilicate glasses
 (Schott D263 and AF45; stability in time of current-voltage
 characteristics of organic thin-**film** devices on glass
 substrates)

IT Doping
 (sodium; stability in time of current-voltage characteristics of
 organic thin-**film** devices on glass substrates)

IT Bias potential
 Contact resistance
 Diffusion
 Electric current-potential relationship
 Electric resistance
 Electrodiffusion
 Glass substrates
 Hysteresis
 Ion mobility
 Semiconductor devices
Semiconductor films
 Stability
 (stability in time of current-voltage characteristics of organic thin-
film devices on glass substrates)

IT Soda-lime glasses
 (stability in time of current-voltage characteristics of organic thin-
film devices on glass substrates)

IT 7440-23-5, Sodium, processes
 (organic **film**; stability in time of current-voltage
 characteristics of organic thin-**film** devices on glass
 substrates)

IT 104934-50-1, Poly(3-hexylthiophene)
 (stability in time of current-voltage characteristics of organic thin-
film devices on glass substrates)

IT **135-48-8**, Pentacene
 (stability in time of current-voltage characteristics of organic thin-
film devices on glass substrates)

IT 1313-59-3, Sodium oxide (Na₂O), processes
 (stability in time of current-voltage characteristics of organic thin-
film devices on glass substrates)

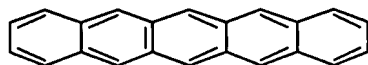
IT 17341-25-2, Sodium(1+), processes
 (stability in time of current-voltage characteristics of organic thin-
film devices on glass substrates)

REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR
 THIS RECORD. ALL CITATIONS AVAILABLE IN THE
 RE FORMAT

L63 ANSWER 46 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2002:869273 HCAPLUS Full-text
 DOCUMENT NUMBER: 137:361452
 TITLE: Active semiconductor devices using threads and
 their fabrication
 INVENTOR(S): Solomon, Paul Michael; Shaw, Jane Margaret; Kagan,
 Cherie R.; Dimitrakopoulos, Christos Dimitrios;
 Ning, Tak Hung

PATENT ASSIGNEE(S): IBM Corporation, USA
 SOURCE: PCT Int. Appl., 33 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002091490	A1	20021114	WO 2002-US6996	20020308
<--				
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2002303115	A1	20021118	AU 2002-303115	20020308
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EP 1390991	A1	20040225	EP 2002-731116	20020308
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R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
JP 2004527131	T	20040902	JP 2002-588646	20020308
<--				
CN 1610978	A	20050427	CN 2002-807094	20020308
<--				
IN 2003CN01744	A	20060106	IN 2003-CN1744	20031104
<--				
PRIORITY APPLN. INFO.:			US 2001-852078	A 20010509
<--				
			WO 2002-US6996	W 20020308
<--				
ED	Entered STN: 15 Nov 2002			
AB	Active devices are fabricated at low cost and temperature that have either a thread or a ribbon geometry. The thread geometry includes single thread active devices and multiply thread devices. Single thread devices have a central core that may contain different materials depending upon whether the active device is responsive to elec., light, mech., heat, or chemical energy. Single thread active devices include FETs, electrooptical devices, stress transducers, and the like. The active devices include a semiconductor body that for the single thread device is a layer about the core of the thread. For the multiple thread devices, the semiconductor body is either a layer on one or more thread or an elongated body disposed between two of the threads. For example, a FET is formed of three threads, of which carried a gate insulator layer and a semiconductor layer and the other two of which are elec. conductive and serve as the source and drain. The substrates or threads are preferably flexible and can be formed in a fabric.			
IT	135-48-8, Pentacene (fibers; fabrication of active semiconductor devices using threads)			
RN	135-48-8 HCAPLUS			
CN	Pentacene (CA INDEX NAME)			



IC ICM H01L035-24
 ICS H01L029-06; H01L051-00; B32B027-12; H05B033-02
 CC 76-3 (**Electric** Phenomena)
 IT Dielectric **films**
 Electrooptical instruments
 Field effect transistors
 Hybrid organic-inorganic materials
 Microfibers
 Molecular electronics
 Optical fibers
 Semiconductor device fabrication
 Semiconductor films
 Textiles
 Threads
 (fabrication of active semiconductor devices using threads)
 IT 110-02-1, Thiophene **135-48-8**, Pentacene 25233-34-5,
 Polythiophene
 (fibers; fabrication of active semiconductor devices using threads)
 REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR
 THIS RECORD. ALL CITATIONS AVAILABLE IN THE
 RE FORMAT

L63 ANSWER 47 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2002:833136 HCAPLUS Full-text
 DOCUMENT NUMBER: 137:319745
 TITLE: Chemical and biological sensor using organic
 self-assembled transistors
 INVENTOR(S): Campbell, Ian H.; Smith, Darryl L.
 PATENT ASSIGNEE(S): The Regents of the University of California, USA
 SOURCE: PCT Int. Appl., 39 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002086979	A1	20021031	WO 2002-US10984	20020410
<--				
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2002167003	A1	20021114	US 2001-837245	20010418
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AU 2002311806	A1	20021105	AU 2002-311806	20020410

PRIORITY APPLN. INFO.:

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 US 2001-837245 A 20010418
 <--
 WO 2002-US10984 W 20020410
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ED Entered STN: 01 Nov 2002

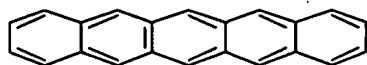
AB An organic self-assembled transistor uses an organic self-assembled monolayer as the active semiconductor layer in which the conducting channel is formed. The monolayer is exposed to the atmospheric; thereby making the voltage characteristics of the transistor, such as mobility and d. of charge carriers, very sensitive to vapor mols. The chemical specificity and strength of interaction of the monolayer is tuned by varying the chemical end group of the organic mols. comprising the monolayer. Varying the chemical end groups allows fabrication of large transistor arrays easily tailored for sensor array or electronic nose applications. The monolayer is also compatible with known low-cost VLSI silicon fabrication processes.

IT 135-48-8, Pentacene

(adsorbed substances detection by chemical and biol. sensors based on organic self-assembled transistors)

RN 135-48-8 HCAPLUS

CN Pentacene (CA INDEX NAME)



IC ICM H01L035-24

ICS H01L051-00

CC 80-2 (Organic Analytical Chemistry)

Section cross-reference(s): 76

IT Adsorbed substances

Functional groups

Gate contacts

Self-assembled monolayers

Semiconductor device fabrication

Semiconductor films

Semiconductor gas sensors

Transistors

(adsorbed substances detection by chemical and biol. sensors based on organic self-assembled transistors)

IT 100-42-5D, derivs. 135-48-8, Pentacene 536-74-3D,

Phenylacetylene, derivs.

(adsorbed substances detection by chemical and biol. sensors based on organic self-assembled transistors)

REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR
 THIS RECORD. ALL CITATIONS AVAILABLE IN THE
 RE FORMAT

L63 ANSWER 48 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2002:820697 HCAPLUS Full-text

DOCUMENT NUMBER: 138:99071

TITLE: Photoresponse of the conductivity in
 functionalized pentacene compounds

AUTHOR(S): Tokumoto, T.; Brooks, J. S.; Clinite, R.; Wei, X.;
 Anthony, J. E.; Eaton, D. L.; Parkin, S. R.

CORPORATE SOURCE: Department of Physics and NHMFL, Florida State

SOURCE: University, Tallahassee, FL, 32310, USA
 Journal of Applied Physics (2002), 92(9),
 5208-5213
 CODEN: JAPIAU; ISSN: 0021-8979
 PUBLISHER: American Institute of Physics
 DOCUMENT TYPE: Journal
 LANGUAGE: English

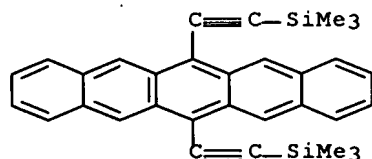
ED Entered STN: 29 Oct 2002

AB We report the investigation of the photoresponse of the conductivity of a recently synthesized class of organic semiconductors based on functionalized pentacene. These materials form high quality single crystals that exhibit a thermally activated resistivity. Unlike pure pentacene, the functionalized derivs. are readily soluble in acetone, and can be evaporated or spincoated as thin films for potential device applications. The elec. conductivity of the single crystal materials is noticeably sensitive to ambient light changes. The purpose, therefore, of the present study, is to determine the nature of the photoresponse in terms of carrier activation vs. heating effects, and also to measure the dependence of the photoresponse on photon energy. We describe a method, involving the temperature dependent photoresponse, which allows an unambiguous identification of the signature of heating effects in materials with a thermally activated conductivity. We find strong evidence that the photoresponse in the materials investigated is predominantly a highly localized heating mechanism. Wavelength dependent studies of the photoresponse reveal resonant features and cutoffs that indicate the photon energy absorption is related to the electronic structure of the material.

IT 317809-68-0 373596-08-8
 (local heating effects in photocond. of functionalized pentacene
 derivs.)

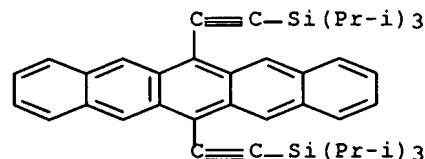
RN 317809-68-0 HCAPLUS

CN Silane, (6,13-pentacenediyl-di-2,1-ethynediyl)bis[trimethyl- (9CI) (CA
 INDEX NAME)



RN 373596-08-8 HCAPLUS

CN Pentacene, 6,13-bis[2-[tris(1-methylethyl)silyl]ethynyl]- (CA INDEX
 NAME)



CC 76-5 (Electric Phenomena)

Section cross-reference(s): 28

IT 317809-68-0 373596-08-8

(local heating effects in photocond. of functionalized pentacene derivs.)

REFERENCE COUNT:

6

THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L63 ANSWER 49 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2002:565200 HCAPLUS Full-text

DOCUMENT NUMBER: 137:247281

TITLE: Band Electronic Structure of One- and Two-Dimensional Pentacene Molecular Crystals

AUTHOR(S): Haddon, R. C.; Chi, X.; Itkis, M. E.; Anthony, J. E.; Eaton, D. L.; Siegrist, T.; Mattheus, C. C.; Palstra, T. T. M.

CORPORATE SOURCE: Departments of Chemistry and Chemical & Environmental Engineering, University of California, Riverside, CA, 92521-0403, USA

SOURCE: Journal of Physical Chemistry B (2002), 106(33), 8288-8292

CODEN: JPCBFK; ISSN: 1089-5647

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 31 Jul 2002

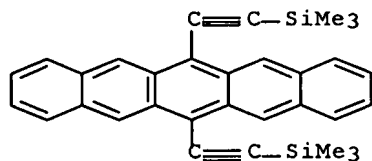
AB EHT calcs. of the band electronic structure of substituted pentacene derivs. and the polymorphs of the parent compound are reported. The results show that there are wide disparities among the bandwidths and electronic dimensionalities of these compds. The parent pentacene polymorphs are 2-dimensional in their band electronic structure with moderate dispersions; the bandwidths in the 14.1 Å d-spacing polymorph are noticeably larger than for the 14.5 Å d-spacing polymorph, reported by Campbell. Whereas the parent pentacene polymorphs adopt the well-known herringbone packing, the new, substituted pentacenes are noticeably different in their solid state structures and this is reflected in the band electronic structures. TMS adopts a highly 1-dimensional structure that leads to a large bandwidth along the stacking direction; TIPS also adopts a stacked structure, but because the mols. are laterally interleaved in the fashion of bricks in a wall, this compound is strongly 2-dimensional.

IT 317809-68-0 373596-08-8

(band electronic structure of one- and two-dimensional pentacene mol. crystals)

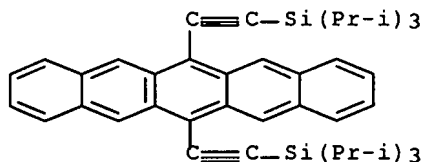
RN 317809-68-0 HCAPLUS

CN Silane, (6,13-pentacenediylldi-2,1-ethynediyl)bis[trimethyl- (9CI) (CA INDEX NAME)



RN 373596-08-8 HCAPLUS

CN Pentacene, 6,13-bis[2-[tris(1-methylethyl)silyl]ethynyl]- (CA INDEX NAME)



CC 22-2 (Physical Organic Chemistry)
 Section cross-reference(s): 29, 75, 76
 IT 99685-96-8, C60 Fullerene 317809-68-0 373596-08-8
 (band electronic structure of one- and two-dimensional pentacene mol. crystals)
 REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L63 ANSWER 50 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2002:299609 HCAPLUS Full-text
 DOCUMENT NUMBER: 137:161070
 TITLE: RGB emission using a dimesitylboryl-bithiophene derivative as a universal host and pentacene derivatives as the red emitters
 AUTHOR(S): Picciolo, Lisa C.; Murata, Hideyuki; Gondarenko, A.; Noda, Tetsuya; Shirota, Yasuhiko; Eaton, D. L.; Anthony, J. E.; Kafafi, Zakya H.
 CORPORATE SOURCE: U.S. Naval Research Laboratory, Washington, DC, 20375, USA
 SOURCE: Proceedings of SPIE-The International Society for Optical Engineering (2002), 4464(Organic Light-Emitting Materials and Devices V), 383-395
 CODEN: PSISDG; ISSN: 0277-786X
 PUBLISHER: SPIE-The International Society for Optical Engineering
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 ED Entered STN: 22 Apr 2002

AB Ph, ethynyl-silyl and ethynyl-alkyl derivs. of pentacene were optically characterized and their use as potential red **emitters** in organic **light emitting** devices was studied. Tuning of the red emission wavelength and photoluminescence quantum efficiency (ϕ_{pl}) is achieved by modifying the substituent and its position on the pentacene backbone. A red shift in the emission maxima (λ_{maximum}) is observed upon addition of more Ph groups or changing from a Ph to an ethynyl-R due to an increase in π -conjugation. For example, the λ_{max} of 6,13-diphenylpentacene (DPP) is 617 nm compared to 630 nm for 5,7,12,14-tetraphenylpentacene (TPP). Similarly, the diethynyl pentacene derivs. have a red shifted λ_{max} (638 nm), relative to that of DPP, due to the greater conjugation associated with the triple bond of the ethynyl group. DPP is explored as a red emitter in a universal blue host due to its ideal red chromaticity and good ϕ_{pl} . Red and green emission is achieved in multi-layered devices through the incorporation of an emitting layer based on a blue-emitting/electron transporting universal host, 5,5'-bis(dimesitylboryl)-2,2'-bithiophene (BMB-2T), doped with fluorescent red and

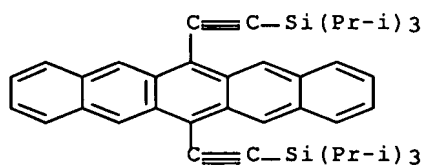
green emitters, resp. Blue emission can be obtained from the host BMB-2T, or from the adjacent hole transporter. A hole-blocking layer was used for the latter case to force electron and hole recombination in the hole transporting layer. The host and guest mols. are selected to take advantage of two electroluminescence mechanisms, energy transfer from host to guest and direct carrier recombination on the guest mols. Hence, one can tune the emission color while maintaining high device efficiency. This approach is also technol. advantageous because it minimizes the number of materials used, reduces cross contamination and production costs.

IT 373596-08-8

(RGB emission using a dimesitylboryl-bithiophene derivative as a universal host and pentacene derivs. as red emitters)

RN 373596-08-8 HCAPLUS

CN Pentacene, 6,13-bis[2-[tris(1-methylethyl)silyl]ethynyl]- (CA INDEX NAME)



CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

ST dimesitylboryl bithiophene deriv pentacene electroluminescent device
luminescence efficiency

IT **Electroluminescent devices**
Luminescence

(RGB emission using a dimesitylboryl-bithiophene derivative as a universal host and pentacene derivs. as red emitters)

IT 2085-33-8, Aluminum tris(8-hydroxyquinolinato) 76727-11-2,
6,13-Diphenylpentacene 76727-12-3 **373596-08-8**
398128-75-1

(RGB emission using a dimesitylboryl-bithiophene derivative as a universal host and pentacene derivs. as red emitters)

REFERENCE COUNT: 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN THE
RE FORMAT

L63 ANSWER 51 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2002:234204 HCAPLUS Full-text

DOCUMENT NUMBER: 137:71192

TITLE: Photo-response of the conductivity in
functionalized pentacene compounds

AUTHOR(S): Tokumoto, T.; Brooks, J. S.; Clinite, R.; Wei, X.;
Anthony, J. E.; Eaton, D. L.; Parkin, S. R.

CORPORATE SOURCE: Physics Dep., NHMFL, Florida State Univ.,
Tallahassee, FL, 32310, USA

SOURCE: Los Alamos National Laboratory, Preprint Archive,
Condensed Matter (2002) 1-18, arXiv:cond-
mat/0203522, 26 Mar 2002

CODEN: LNCMFR

URL: <http://xxx.lanl.gov/pdf/cond-mat/0203522>

PUBLISHER: Los Alamos National Laboratory

DOCUMENT TYPE: Preprint

LANGUAGE: English

ED Entered STN: 28 Mar 2002

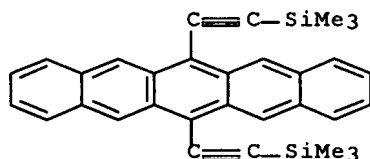
AB The authors report the 1st study of the photo-response of the conductivity of a new class of organic semiconductors based on functionalized pentacene. These materials form high quality single crystals that exhibit a thermally activated resistivity. Unlike pure pentacene, the functionalized derivs. are readily soluble in acetone, and can be evaporated or spin-cast as thin films for potential device applications. The elec. conductivity of the single crystal materials is noticeably sensitive to ambient light changes. The purpose, therefore, of the present study, is to determine the nature of the photo-response in terms of carrier activation vs. heating effects, and also to measure the dependence of the photo-response on photon energy. The authors describe a new method, involving the temperature dependent photo-response, which allows an unambiguous identification of the signature of heating effects in materials with a thermally activated conductivity. The authors find strong evidence that the photo-response in the materials studied is predominantly a highly localized heating mechanism. Wavelength dependent studies of the photo-response reveal resonant features and cut-offs that indicate the photon energy absorption is related to the electronic structure of the material.

IT 317809-68-0 373596-08-8

(local heating effects in photocond. of functionalized pentacene derivs.)

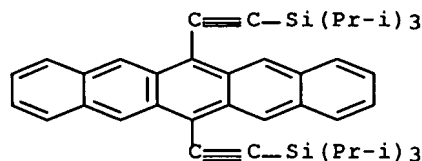
RN 317809-68-0 HCAPLUS

CN Silane, (6,13-pentacenediyl-di-2,1-ethynediyl)bis[trimethyl- (9CI) (CA INDEX NAME)



RN 373596-08-8 HCAPLUS

CN Pentacene, 6,13-bis[2-[tris(1-methylethyl)silyl]ethynyl]- (CA INDEX NAME)



CC 76-5 (Electric Phenomena)

Section cross-reference(s): 28

IT 317809-68-0 373596-08-8

(local heating effects in photocond. of functionalized pentacene derivs.)

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR

THIS RECORD. ALL CITATIONS AVAILABLE IN THE
RE FORMAT

L63 ANSWER 52 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2001:627686 HCAPLUS Full-text

DOCUMENT NUMBER: 135:371415

TITLE: Functionalized Pentacene: Improved Electronic
Properties from Control of Solid-State Order

AUTHOR(S): Anthony, John E.; Brooks, James S.; Eaton, David
L.; Parkin, Sean R.

CORPORATE SOURCE: Department of Chemistry, University of Kentucky,
Lexington, KY, 40506-0055, USA

SOURCE: Journal of the American Chemical Society (2001),
123(38), 9482-9483

CODEN: JACSAT; ISSN: 0002-7863

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 135:371415

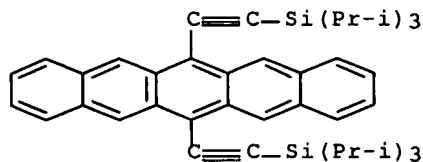
ED Entered STN: 30 Aug 2001

AB 6,13-Bis(triisopropylsilylethynyl)pentacene (1) was prepared in a 1-pot
reaction from 6,13-pentacenequinone; in the solid state, 1 stacked in 2-
dimensional columnar arrays with significant overlap of pentacene rings in
adjacent mols. (interplanar spacing of aromatic rings was 3.47Å for 1 vs.
6.27Å for unsubstituted pentacene). 1 Exhibited anisotropic resistivity in
the crystal, with all values significantly lower than for high-purity
pentacene. The asym. 5,14 analog of 1 (2) was also prepared, but its
herringbone crystal structure produced higher resistivity along all
crystallog. axes. Band gaps in 1 and 2 were measured. The surface
resistivity of a vacuum-evaporated film of 1 corresponded to the resistivity
along the π -stacking crystal axis, implying the formation of a highly ordered
film with the silyl groups on the glass surface and π -stacking in the
direction of current flow.

IT 373596-08-8P, 6,13-Bis(triisopropylsilylethynyl)pentacene
373596-09-9P, 5,14-Bis(triisopropylsilylethynyl)pentacene
(preparation, crystallog., and resistivity of functionalized pentacenes
in the crystal and thin film)

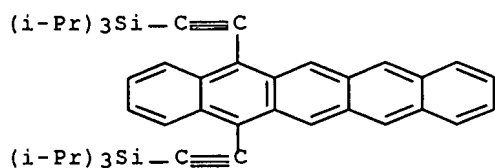
RN 373596-08-8 HCAPLUS

CN Pentacene, 6,13-bis[2-[tris(1-methylethyl)silyl]ethynyl]- (CA INDEX
NAME)



RN 373596-09-9 HCAPLUS

CN Silane, (5,14-pentacenediyl)di-2,1-ethynediyl)bis[tris(1-methylethyl)-
(9CI) (CA INDEX NAME)



CC 22-13 (Physical Organic Chemistry)
 Section cross-reference(s): 29, 75, 76
 IT 373596-08-8P, 6,13-Bis(triisopropylsilyl)ethynyl)pentacene
 373596-09-9P, 5,14-Bis(triisopropylsilyl)ethynyl)pentacene
 (preparation, crystallog., and resistivity of functionalized pentacenes
 in the crystal and thin film)
 REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR
 THIS RECORD. ALL CITATIONS AVAILABLE IN THE
 RE FORMAT

L63 ANSWER 53 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2001:12763 HCAPLUS Full-text
 DOCUMENT NUMBER: 134:93174
 TITLE: Organic **light emitters** with
 improved carrier injection
 INVENTOR(S): Jackson, Thomas N.; Klauk, Hagen
 PATENT ASSIGNEE(S): The Penn State Research Foundation, USA
 SOURCE: PCT Int. Appl., 23 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001001452	A2	20010104	WO 2000-US17325	20000623
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W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
AU 2000078246	A	20010131	AU 2000-78246	20000623
<--				
US 6720572	B1	20040413	US 2000-602438	20000623
<--				
PRIORITY APPLN. INFO.:			US 1999-141161P	P 19990625
<--				
			WO 2000-US17325	W 20000623
<--				

ED Entered STN: 05 Jan 2001

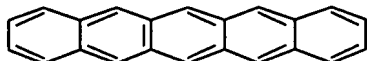
AB **Light-emitting** devices are described which comprise a first elec. conductive contact layer and a second elec. conductive contact layer between which are sandwiched a **light -emitting** layer that includes a first organic material and

a semiconductor layer that includes a second organic material. When used as a diode, the first and second contacts are functionally the anode and cathode. The devices can be configured as field-effect transistor device by adding a gate contact and a gate dielec. The first and second contacts then addnl. have the function of source and drain, depending on whether the organic semiconductor material is a p-type or an n-type.

IT 135-48-8, Pentacene
(organic **light-emitting** devices with improved carrier injection)

RN 135-48-8 HCAPLUS

CN Pentacene (CA INDEX NAME)



IC ICM H01L

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 76

ST org **light emitting** device

IT **Field effect transistors**

(organic **light-emitting** devices with improved carrier injection configured as)

IT **Electroluminescent devices**

(organic; organic **light-emitting** devices with improved carrier injection)

IT 135-48-8, Pentacene 2085-33-8, Tris(8-hydroxyquinolino)aluminum 7429-90-5, Aluminum, uses 7440-05-3, Palladium, uses 7631-86-9, Silicon dioxide, uses 12033-89-5, Silicon nitride, uses 50926-11-9, Indium tin oxide 65181-78-4, TPD (organic **light-emitting** devices with improved carrier injection)

L63 ANSWER 54 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1999:723129 HCAPLUS Full-text

DOCUMENT NUMBER: 131:344028

TITLE: Emissive polymers and devices incorporating these polymers

INVENTOR(S): Swager, Timothy; Yang, Jye-Shane; Williams, Vance; Miao, Yi-Jun; Lugmair, Claus G.; Levitsky, Igor A.; Kim, Jinsang; Deans, Robert

PATENT ASSIGNEE(S): Massachusetts Institute of Technology, USA

SOURCE: PCT Int. Appl., 109 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 3

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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WO 9957222	A1	19991111	WO 1999-US9852	19990505

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W: CA, JP

RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC,

NL, PT, SE					
EP 1080162	A1	20010307	EP 1999-921696		19990505
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EP 1080162	B1	20040310			
R: AT, DE, FR, GB, IT					
EP 1281744	A2	20030205	EP 2002-24311		19990505
			<--		
EP 1281744	A3	20030212			
R: AT, DE, FR, GB, IT					
AT 261483	T	20040315	AT 1999-921696		19990505
			<--		
PRIORITY APPLN. INFO.:			US 1998-84247P	P	19980505
			<--		
			EP 1999-921696	A3	19990505
			<--		
			WO 1999-US9852	W	19990505
			<--		

ED Entered STN: 12 Nov 1999

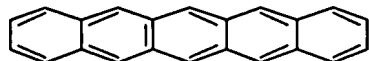
AB **Luminescent** and conductive polymer compns. having chromophores are described which comprise polymers having rigid groups designed to prevent polymer reorganization, aggregation or π -stacking upon solidification. Sensors and methods for sensing an analyte through the **luminescent** and conductive properties of these polymers are also described. Analytes can be sensed by activation of a chromophore at a polymer surface. Analytes may include aroms., phosphate ester groups and in particular explosives and chemical warfare agents in gaseous state. Devices and methods for amplifying emissions by incorporating a polymer having an energy migration pathway and/or providing the polymer as a block copolymer or as a multilayer are also described. Field-effect transistors employing the polymers are also described.

IT 135-48-8, Pentacene

(in preparation of **luminescent** polymers and sensors and devices incorporating them)

RN 135-48-8 HCAPLUS

CN Pentacene (CA INDEX NAME)



IC ICM C09K011-06

ICS H01L051-20; G01N021-64; H01B001-12

CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 9, 38, 50, 76, 79, 80

ST FET **luminescent** conductive polymer; sensor
luminescent conductive polymer

IT Conducting polymers

Field effect transistors

Luminescent substances

Optical amplifiers

Optical gain

Optical sensors

Sensors

(**luminescent** polymers and sensors and devices incorporating them)

IT Chemical warfare agents
Explosives
(**luminescent** polymers and sensors and devices
incorporating them for sensing)

IT 249922-31-4P 444890-64-6DP, reaction products with aminomethylated
polystyrene resin
(in preparation of **luminescent** polymers and sensors and
devices incorporating them)

IT 249922-19-8DP, reaction products with functionalized resins
(in preparation of **luminescent** polymers and sensors and
devices incorporating them)

IT 106-51-4, 2,5-Cyclohexadiene-1,4-dione, reactions 120-12-7,
Anthracene, reactions 120-80-9, 1,2-Dihydroxybenzene, reactions
135-48-8, Pentacene 150-78-7, 1,4-Dimethoxybenzene
592-57-4, 1,3-Cyclohexadiene 619-58-9, 4-Iodobenzoic acid
1066-54-2, Trimethylsilylacetylene 18908-66-2, 2-Ethylhexylbromide
31093-44-4, Naphthalene boronic acid 63262-06-6,
1,4-Dibromo-2,5-diiodobenzene 145483-64-3, 1,4-Dihexadecyloxy-2,5-
diiodobenzene 220080-67-1 222405-92-7
(in preparation of **luminescent** polymers and sensors and
devices incorporating them)

IT 2050-46-6P, 1,2-Diethoxybenzene 3519-82-2P 5969-70-0P 6932-41-8P
6932-42-9P 25934-47-8P, 1,2-Didecyloxybenzene 51934-41-9P
53207-08-2P 78823-45-7P 94762-46-6P 115208-28-1P 195321-60-9P
214461-09-3P 214461-10-6P 214461-12-8P 214461-13-9P
220080-67-1DP, polymer with diethynyltetrahydrodibenzenopentacene
220080-74-0P 220080-99-9P 220081-01-6P 220081-04-9P
220081-06-1P 233661-07-9P 249918-56-7P 249919-48-0P
249922-67-6P 249922-90-5P 249923-14-6P 249923-23-7P
249923-31-7P 249923-82-8P 249923-84-0P 249923-86-2P
249923-88-4P 249923-90-8P 249923-91-9P 249923-93-1P
249923-95-3P 249923-98-6P 249924-03-6P 249924-04-7P
249924-06-9P 249924-08-1P 249924-10-5P 249924-13-8P
249924-15-0P 249924-17-2P 249924-23-0P 444890-64-6P
(in preparation of **luminescent** polymers and sensors and
devices incorporating them)

IT 167895-30-9DP, polymer with diethynyltetrahydrodibenzenopentacene
214461-10-6DP, polymer with dioctylcarbamoyleddiiodobenzene
220080-74-0DP, polymer with diiodobistetradecyloxybenzene
(**luminescent** polymers and sensors and devices
incorporating them)

IT 9003-53-6D, functionalized 167895-30-9
(**luminescent** polymers and sensors and devices
incorporating them)

IT 118-96-7, TNT 25321-14-6, Dinitrotoluene
(**luminescent** polymers and sensors and devices
incorporating them for sensing)

REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN THE
RE FORMAT

=> d que 162

L6 1270 SEA FILE=REGISTRY ABB=ON PLU=ON 8481.2/RID
 L13 3411 SEA FILE=HCAPLUS ABB=ON PLU=ON L6
 L56 2897 SEA FILE=HCAPLUS ABB=ON PLU=ON BROWN, B?/AU
 L57 31 SEA FILE=HCAPLUS ABB=ON PLU=ON VERES, J?/AU
 L58 23 SEA FILE=HCAPLUS ABB=ON PLU=ON ANEMIAN, R?/AU
 L59 10561 SEA FILE=HCAPLUS ABB=ON PLU=ON WILLIAMS, R?/AU
 L60 36 SEA FILE=HCAPLUS ABB=ON PLU=ON OGIER, S?/AU
 L61 24 SEA FILE=HCAPLUS ABB=ON PLU=ON LEEMING, S?/AU
 L62 4 SEA FILE=HCAPLUS ABB=ON PLU=ON (L56 OR L57 OR L58 OR L59
 OR L60 OR L61) AND L13

=> d 162 1-4 ibib ed abs hitstr hitind

L62 ANSWER 1 OF 4 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2006:1252333 HCAPLUS Full-text
 DOCUMENT NUMBER: 146:37413
 TITLE: Oligomeric polyacene and semiconductor formulation
 INVENTOR(S): Leeming, Stephen William; Anemian,
 Remi Manouk; Williams, Richard;
 Brown, Beverley Anne
 PATENT ASSIGNEE(S): Merck Patent G.m.b.H., Germany
 SOURCE: PCT Int. Appl., 90pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006125504	A1	20061130	WO 2006-EP3889	20060426
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
PRIORITY APPLN. INFO.:			EP 2005-11063	A 20050521
			US 2005-683297P	P 20050523

OTHER SOURCE(S): MARPAT 146:37413

ED Entered STN: 01 Dec 2006

AB The invention relates to novel oligomeric polyacene compds., organic
 semiconducting formulations and layers comprising them, a process for
 preparing the formulation and layer and electronic devices, including organic
 field effect transistors (OFETs), comprising the same.

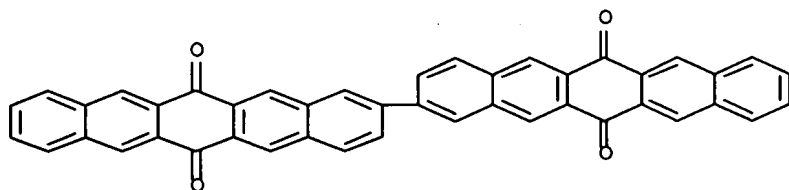
IT 915978-20-0, [2,2'-Bipentacene]-6,6',13,13'-tetrone
 915978-21-1 915978-24-4 915978-25-5
 915978-28-8 915978-29-9 915978-30-2

915978-32-4

(oligomeric polyacene and semiconductor formulation for field effect transistors and optoelectronic devices)

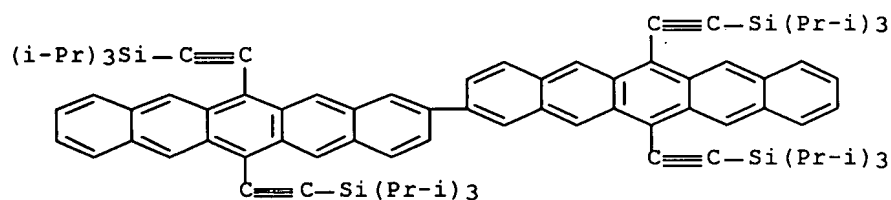
RN 915978-20-0 HCAPLUS

CN [2,2'-Bipentacene]-6,6',13,13'-tetrone (CA INDEX NAME)



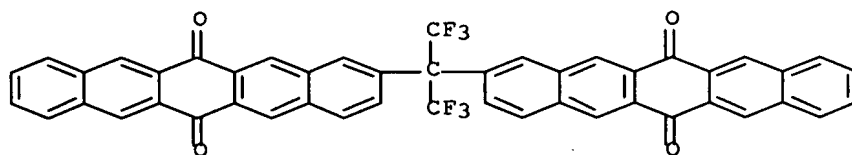
RN 915978-21-1 HCAPLUS

CN 2,2'-Bipentacene, 6,6',13,13'-tetrakis[2-[tris(1-methylethyl)silyl]ethynyl]- (CA INDEX NAME)



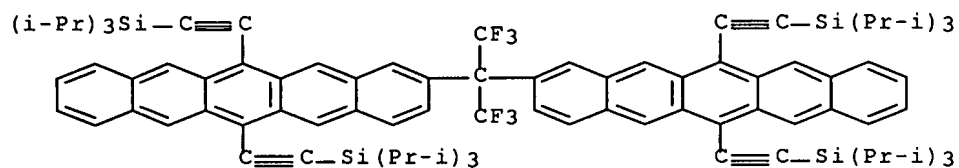
RN 915978-24-4 HCAPLUS

CN 6,13-Pentacenedione, 2,2'-(2,2,2-trifluorideneethylidene)bis- (CA INDEX NAME)



RN 915978-25-5 HCAPLUS

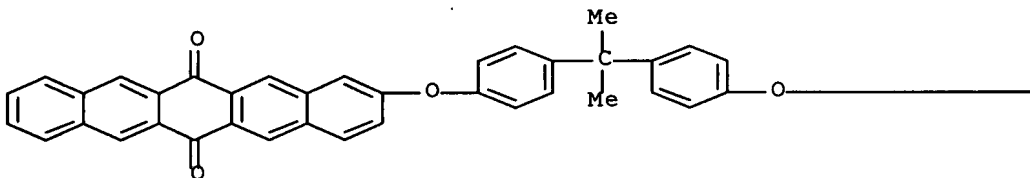
CN Pentacene, 2,2'-(2,2,2-trifluorideneethylidene)bis[6,13-bis[2-[tris(1-methylethyl)silyl]ethynyl]- (CA INDEX NAME)



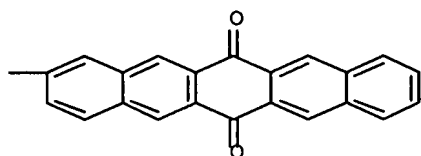
RN 915978-28-8 HCAPLUS

CN 6,13-Pentacenedione, 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxy)]bis- (CA INDEX NAME)

PAGE 1-A



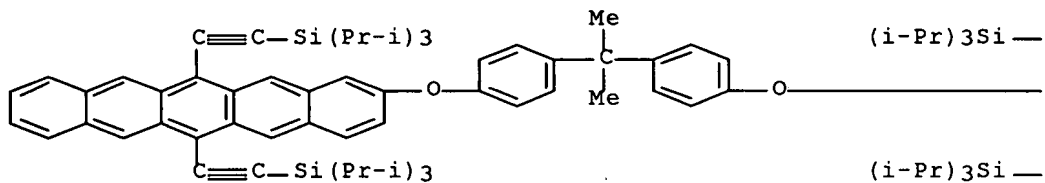
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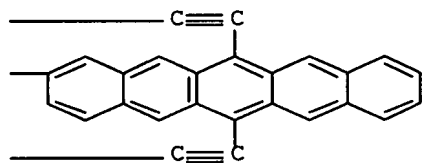


RN 915978-29-9 HCAPLUS

CN Pentacene, 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxy)]bis[6,13-bis[2-[(trimethylsilyl)ethynyl]]- (CA INDEX NAME)

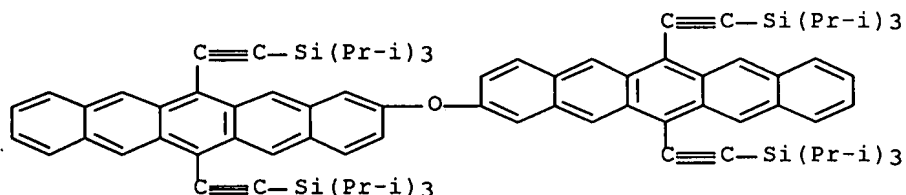
PAGE 1-A





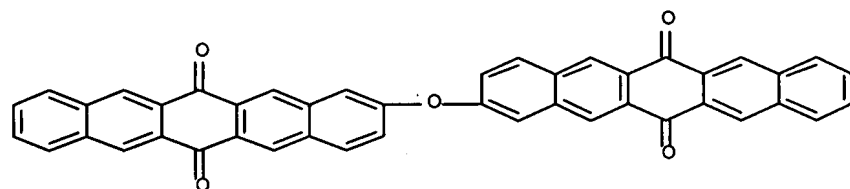
RN 915978-30-2 HCAPLUS

CN Pentacene, 2,2'-oxybis[6,13-bis[2-[tris(1-methylethyl)silyl]ethynyl]-
(CA INDEX NAME)



RN 915978-32-4 HCAPLUS

CN 6,13-Pentacenedione, 2,2'-oxybis- (CA INDEX NAME)



CC 76-3 (Electric Phenomena)

Section cross-reference(s): 22, 28

IT 635-12-1, 1,4-Anthracenedione 7218-35-1, 1,4-Anthracenediol
850084-03-6 915978-18-6, [1,1'-Biphenyl]-3,3',4,4'-tetramethanol
915978-19-7 **915978-20-0**, [2,2'-Bipentacene]-6,6',13,13'-
tetrone **915978-21-1** 915978-22-2 915978-23-3
915978-24-4 **915978-25-5** 915978-26-6 915978-27-7
915978-28-8 **915978-29-9** **915978-30-2**
915978-31-3 **915978-32-4**

(oligomeric polyacene and semiconductor formulation for field
effect transistors and optoelectronic devices)

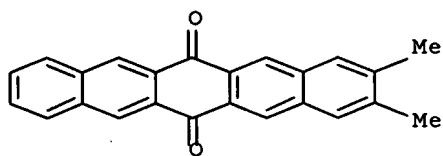
REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN THE
RE FORMAT

L62 ANSWER 2 OF 4 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2006:1206222 HCAPLUS Full-text
DOCUMENT NUMBER: 145:515020

TITLE: Polyacene and semiconductor formulation
 INVENTOR(S): Anemian, Remi Manouk; Leeming, Stephen William
 PATENT ASSIGNEE(S): Merck Patent G.m.b.H., Germany
 SOURCE: PCT Int. Appl., 67pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

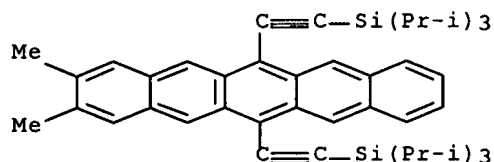
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006119853	A1	20061116	WO 2006-EP3671	20060421
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
PRIORITY APPLN. INFO.:			EP 2005-10384	A 20050512
			US 2005-679986P	P 20050512
			EP 2005-10468	A 20050513
			US 2005-682815P	P 20050520

OTHER SOURCE(S): MARPAT 145:515020
 ED Entered STN: 17 Nov 2006
 AB The invention relates to novel polyacene compds., organic semiconducting formulations and layers comprising them, a process for preparing the formulation and layer and electronic devices, including organic field effect transistors (OFETs), comprising the same.
 IT **758706-00-2**
 (polyacene and semiconductor formulation for organic field effect transistor and electronic devices)
 RN 758706-00-2 HCAPLUS
 CN 6,13-Pentacenedione, 2,3-dimethyl- (9CI) (CA INDEX NAME)



IT **914922-85-3P**
 (polyacene and semiconductor formulation for organic field effect transistor and electronic devices)
 RN 914922-85-3 HCAPLUS

CN Silane, [(2,3-dimethyl-6,13-pentacenediyl)di-2,1-ethynediyl]bis[tris(1-methylethyl)-(9CI) (CA INDEX NAME)]

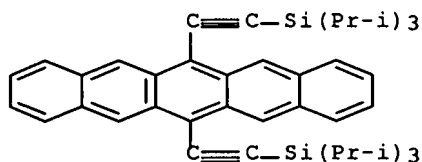


CC 76-3 (Electric Phenomena)
 Section cross-reference(s): 22, 28
 IT 635-12-1, 1,4-Anthracedione 7218-35-1, 1,4-Dihydroxyanthracene
 758706-00-2 914922-86-4, Naphthaceno[2,3-b]thiophene-5,12-dione
 (polyacene and semiconductor formulation for organic field effect transistor and electronic devices)
 IT 911469-62-0P **914922-85-3P**
 (polyacene and semiconductor formulation for organic field effect transistor and electronic devices)
 REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L62 ANSWER 3 OF 4 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2006:437554 HCAPLUS Full-text
 DOCUMENT NUMBER: 144:479184
 TITLE: Process for making an organic field effect transistor with areas of reduced carrier mobility
 INVENTOR(S): **Brown, Beverley Anne; Veres, Janos; Ogier, Simon Dominic**
 PATENT ASSIGNEE(S): Merck Patent G.m.b.H., Germany
 SOURCE: PCT Int. Appl., 24 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006048092	A1	20060511	WO 2005-EP10661	20051004
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
PRIORITY APPLN. INFO.:			GB 2004-24342	A 20041103

ED Entered STN: 11 May 2006
 AB The present invention relates to a process for reducing the mobility of an organic semiconductor (OSC) layer in an electronic device having a semiconducting channel area. The mobility of the OSC is reduced in specific areas outside the channel area by applying an oxidizing agent to the OSC layer.
 IT **373596-08-8**
 (organic semiconductor layer; process for making an organic field effect transistor with areas of reduced carrier mobility)
 RN 373596-08-8 HCAPLUS
 CN Pentacene, 6,13-bis[2-[tris(1-methylethyl)silyl]ethynyl]- (CA INDEX NAME)



CC 76-3 (Electric Phenomena)
 IT **373596-08-8**
 (organic semiconductor layer; process for making an organic field effect transistor with areas of reduced carrier mobility)
 REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

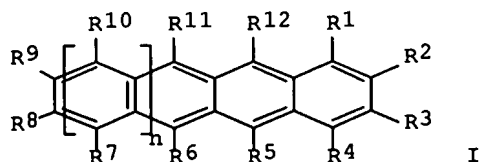
L62 ANSWER 4 OF 4 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2005:523782 HCAPLUS Full-text
 DOCUMENT NUMBER: 143:69829
 TITLE: Improvements in and relating to organic semiconducting layers
 INVENTOR(S): **Brown, Beverley Anne; Veres, Janos; Anemian, Remi Manouk; Williams, Richard Thomas; Ogier, Simon Dominic; Leeming, Stephen William**
 PATENT ASSIGNEE(S): Avecia Limited, UK
 SOURCE: PCT Int. Appl., 68 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005055248	A2	20050616	WO 2004-GB4973	20041125
WO 2005055248	A3	20050728		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,

MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD,
 SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ,
 VC, VN, YU, ZA, ZM, ZW
 RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW,
 AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ,
 DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LU, MC, NL,
 PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN,
 GQ, GW, ML, MR, NE, SN, TD, TG
 EP 1687830 A2 20060809 EP 2004-819715 20041125
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,
 PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK, IS
 PRIORITY APPLN. INFO.: GB 2003-27654 A 20031128
 GB 2004-7852 A 20040407
 GB 2004-14347 A 20040626
 WO 2004-GB4973 W 20041125

OTHER SOURCE(S): MARPAT 143:69829
 ED Entered STN: 17 Jun 2005
 GI



AB An organic semiconducting layer formulation (I), which comprises: an organic binder which has a permittivity, ϵ , at 1,000 Hz of 3.3 or less; and a polyacene compound of Formula: A: wherein: each of R1, R2, R3, R4, R5, R6, R7, R8, R9, R10, R11 and R12, which may be the same or different, independently represents hydrogen; an optionally substituted C1-C40 carbyl or hydrocarbyl group; an optionally substituted C1-C40 alkoxy group; an optionally substituted C6-C40 aryloxy group; an optionally substituted C7-C40 alkylaryloxy group; an optionally substituted C2-C40 alkoxy carbonyl group; an optionally substituted C7-C40 aryloxy carbonyl group; a cyano group (-CN); a carbamoyl group (-C(=O)NH₂); a haloformyl group (-C(=O)-X, wherein X represents a halogen atom); a formyl group (-C(=O)-H); an isocyano group; an isocyanate group; a thiocyanate group or a thioisocyanate group; an optionally substituted amino group; a hydroxy group. A nitro group; a CF₃ group; a halo group (Cl, Br, F); or an optionally substituted silyl group; and wherein independently each pair of R2 and R3 and/or R8 and R9, may be cross-bridged to form a C4-C40 saturated or unsatd. ring, which saturated or unsatd. ring may be intervened by an oxygen atom, a sulfur atom or a group shown by formula -N(Ra)- (wherein Ra is a hydrogen atom or an optionally substituted hydrocarbon group), or may optionally be substituted; and wherein one or more of the carbon atoms of the polyacene skeleton may optionally be substituted by a heteroatom selected from N, P, As, O, S, Se and Te; and wherein independently any two or more of the substituents R1-R12 which are located on adjacent ring positions of the polyacene may, together, optionally constitute a further C4-C40 saturated or unsatd. ring optionally interrupted by O, S or -N(Ra) where

Ra is as defined above or an aromatic ring system, fused to the polyacene; and wherein n is 0, 1, 2, 3 or 4, also claimed is an electronic device, particularly.

IT 6006-83-3, 5,14-Pentacenedione 317809-68-0

373596-08-8 373596-09-9 398128-81-9

607387-98-4 854519-90-7 854519-91-8

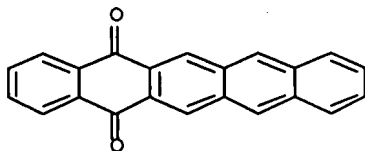
854519-93-0 854519-94-1 854519-95-2

854519-96-3 854519-99-6 854520-00-6

(improvements in and relating to organic semiconducting layers for organic FETs)

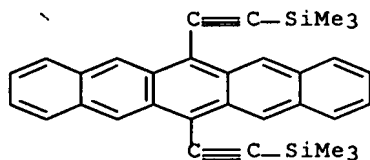
RN 6006-83-3 HCAPLUS

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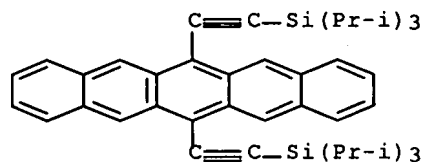
RN 317809-68-0 HCAPLUS

CN Silane, (6,13-pentacenediyl-di-2,1-ethynediyl)bis[trimethyl- (9CI) (CA INDEX NAME)



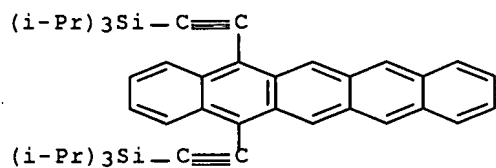
RN 373596-08-8 HCAPLUS

CN Pentacene, 6,13-bis[2-[tris(1-methylethyl)silyl]ethynyl]- (CA INDEX NAME)



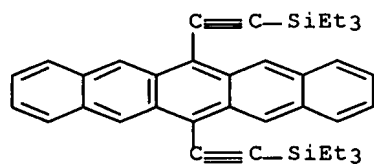
RN 373596-09-9 HCAPLUS

CN Silane, (5,14-pentacenediyl-di-2,1-ethynediyl)bis[tris(1-methylethyl)- (9CI) (CA INDEX NAME)



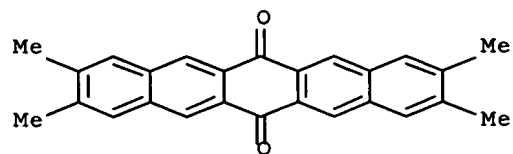
RN 398128-81-9 HCAPLUS

CN Pentacene, 6,13-bis[2-(triethylsilyl)ethynyl]- (CA INDEX NAME)



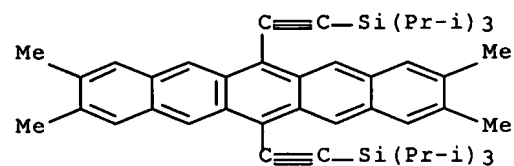
RN 607387-98-4 HCAPLUS

CN 6,13-Pentacenedione, 2,3,9,10-tetramethyl- (9CI) (CA INDEX NAME)



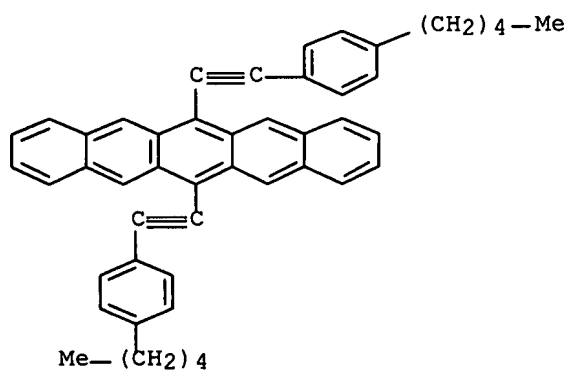
RN 854519-90-7 HCAPLUS

CN Silane, [(2,3,9,10-tetramethyl-6,13-pentacenediyl)di-2,1-ethynediyl]bis[tris(1-methylethyl)- (9CI) (CA INDEX NAME)]



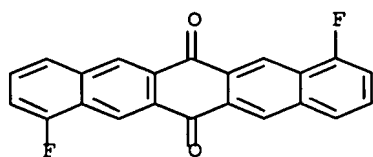
RN 854519-91-8 HCAPLUS

CN Pentacene, 6,13-bis[2-(4-pentylphenyl)ethynyl]- (CA INDEX NAME)



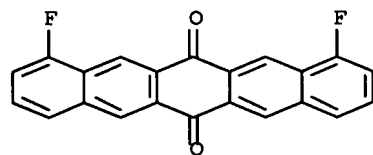
RN 854519-93-0 HCAPLUS

CN 6,13-Pentacenedione, 1,8-difluoro- (9CI) (CA INDEX NAME)



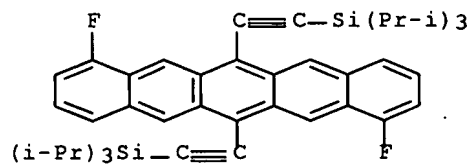
RN 854519-94-1 HCAPLUS

CN 6,13-Pentacenedione, 1,11-difluoro- (9CI) (CA INDEX NAME)



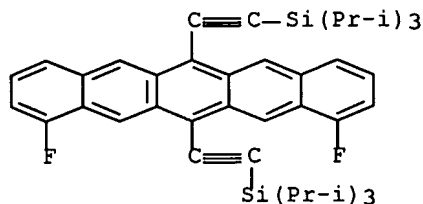
RN 854519-95-2 HCAPLUS

CN Silane, [(1,8-difluoro-6,13-pentacenediyl)di-2,1-ethynediyl]bis[tris(1-methylethyl)- (9CI) (CA INDEX NAME)]



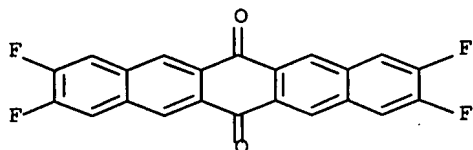
RN 854519-96-3 HCAPLUS

CN Silane, [(1,11-difluoro-6,13-pentacenediyl)di-2,1-ethynediyl]bis[tris(1-methylethyl)- (9CI) (CA INDEX NAME)]



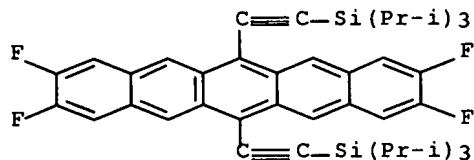
RN 854519-99-6 HCAPLUS

CN 6,13-Pentacenedione, 2,3,9,10-tetrafluoro- (9CI) (CA INDEX NAME)



RN 854520-00-6 HCAPLUS

CN Silane, [(2,3,9,10-tetrafluoro-6,13-pentacenediyl)di-2,1-ethynediyl]bis[tris(1-methylethyl)- (9CI) (CA INDEX NAME)]



IC ICM H01B001-12

ICS H01B001-20; C08L039-04; H01L051-30; H01L051-20

CC 76-3 (Electric Phenomena)

IT **6006-83-3**, 5,14-Pentacenedione 25445-42-5 143746-71-8

143746-72-9 160485-42-7 161747-14-4 **317809-68-0**

373596-08-8 373596-09-9 398128-81-9

607387-98-4 775324-33-9 775324-34-0 **854519-90-7**

854519-91-8 854519-92-9 **854519-93-0**

854519-94-1 854519-95-2 854519-96-3

854519-97-4 854519-98-5 **854519-99-6 854520-00-6**

(improvements in and relating to organic semiconducting layers for organic FETs)

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(FILE 'HOME' ENTERED AT 11:00:18 ON 26 APR 2007)

FILE 'HCAPLUS' ENTERED AT 11:00:26 ON 26 APR 2007

E WO2004-GB04973/PRN,PN,AP

L1 1 SEA ABB=ON PLU=ON (WO2004-GB4973/PRN OR WO2004-GB4973/AP)
SEL RN

FILE 'REGISTRY' ENTERED AT 11:00:43 ON 26 APR 2007

L2 24 SEA ABB=ON PLU=ON (143746-71-8/BI OR 143746-72-9/BI OR
160485-42-7/BI OR 161747-14-4/BI OR 25445-42-5/BI OR
317809-68-0/BI OR 373596-08-8/BI OR 373596-09-9/BI OR
398128-81-9/BI OR 6006-83-3/BI OR 607387-98-4/BI OR
775324-33-9/BI OR 775324-34-0/BI OR 854519-90-7/BI OR
854519-91-8/BI OR 854519-92-9/BI OR 854519-93-0/BI OR
854519-94-1/BI OR 854519-95-2/BI OR 854519-96-3/BI OR
854519-97-4/BI OR 854519-98-5/BI OR 854519-99-6/BI OR
854520-00-6/BI)

L3 STR

L4 34 SEA SSS SAM L3

L5 3 SEA ABB=ON PLU=ON L4 AND PENTACENEDIONE?

L6 1270 SEA ABB=ON PLU=ON 8481.2/RID

L7 14 SEA ABB=ON PLU=ON L6 AND L2

L8 10 SEA ABB=ON PLU=ON L2 NOT L7

L9 STR

L10 50 SEA SSS SAM L9

L11 125895 SEA ABB=ON PLU=ON 2508.17/RID

L12 0 SEA ABB=ON PLU=ON L2 AND L11

FILE 'HCAPLUS' ENTERED AT 11:04:32 ON 26 APR 2007

L13 3411 SEA ABB=ON PLU=ON L6

L14 52 SEA ABB=ON PLU=ON L7

E SEMICONDUCTOR FILMS/CT

L15 7451 SEA ABB=ON PLU=ON "SEMICONDUCTOR FILMS"+PFT,OLD,NEW,NT/CT

E FIELD EFFECT TRANSISTORS/CT

L16 52234 SEA ABB=ON PLU=ON "FIELD EFFECT TRANSISTORS"+PFT,OLD,NEW,
NT/CT

L17 443 SEA ABB=ON PLU=ON L13 AND (L15 OR L16)

L18 324 SEA ABB=ON PLU=ON L17 AND DEV/RL

L19 14 SEA ABB=ON PLU=ON ORGANIC SEMICONDUCTING LAYER?

L20 1 SEA ABB=ON PLU=ON L18 AND L19

L21 320 SEA ABB=ON PLU=ON L18 AND ELECTRIC?/SC,SX

L22 36 SEA ABB=ON PLU=ON L21 AND L15

L23 198 SEA ABB=ON PLU=ON L18 AND SEMICONDUCT?

L24 197 SEA ABB=ON PLU=ON L23 AND ELECTRIC?/SC,SX

L25 148 SEA ABB=ON PLU=ON L24 AND ORGANIC?(3A) (SEMICONDUCT? OR
CONDUCT?)

L26 123 SEA ABB=ON PLU=ON L25 AND (LAYER? OR FILM? OR BILAYER?
OR SHEET? OR THINLAYER? OR LAMIN? OR OVERLAY? OR OVERLAID?
OR MULTILAYER?)

L27 11 SEA ABB=ON PLU=ON L26 AND SOLVENT?

L28 4 SEA ABB=ON PLU=ON L26 AND BINDER?

L29 4 SEA ABB=ON PLU=ON L26 AND (COMPOSITION? OR FORMULATION?
OR MIXTUR?)

L30 13 SEA ABB=ON PLU=ON (L27 OR L28 OR L29)

L31 42 SEA ABB=ON PLU=ON L22 OR L30

L32 18 SEA ABB=ON PLU=ON L31 AND (1840-2003)/PRY,AY,PY
 L33 299 SEA ABB=ON PLU=ON L18 AND ELECTRIC?/SC
 L34 119 SEA ABB=ON PLU=ON L33 AND (1840-2003)/PRY,AY,PY
 L35 92 SEA ABB=ON PLU=ON L34 AND (LAYER? OR FILM? OR BILAYER?
 OR SHEET? OR THINLAYER? OR LAMIN? OR OVERLAY? OR OVERLAID?
 OR MULTILAYER?)
 L36 15 SEA ABB=ON PLU=ON L35 AND L15
 L37 18 SEA ABB=ON PLU=ON L32 OR L36

FILE 'REGISTRY' ENTERED AT 11:20:54 ON 26 APR 2007

L38 8 SEA ABB=ON PLU=ON L7 AND 1-5/SI

FILE 'HCAPLUS' ENTERED AT 11:22:52 ON 26 APR 2007

L39 39 SEA ABB=ON PLU=ON L38
 L40 QUE ABB=ON PLU=ON LUM!N? OR ELECTROLUM!N OR ORGANOLUM!N?
 OR (ELECTRO OR ORGANO OR ORG#) (2A) LUM!N? OR LIGHT? (2A) (EMIT
 ? OR EMISSION?) OR (EL OR E(W) L OR L(W) E(W) D OR OLED)/IB,AB
 OR LED/IT
 L41 2 SEA ABB=ON PLU=ON L39 AND L40
 E LUMINESCENCE/CT
 L42 265367 SEA ABB=ON PLU=ON LUMINESCENCE+PFT,NT,OLD,NEW/CT
 L43 2 SEA ABB=ON PLU=ON L39 AND L42
 E ELECTROLUMINESCENT DEVICES/CT
 L44 57805 SEA ABB=ON PLU=ON "ELECTROLUMINESCENT DEVICES"+PFT,OLD,NE
 W,NT/CT
 L45 3 SEA ABB=ON PLU=ON L39 AND L44
 L46 1 SEA ABB=ON PLU=ON L39 AND L15
 L47 7 SEA ABB=ON PLU=ON L39 AND L16
 L48 27 SEA ABB=ON PLU=ON L39 AND ELECTRIC?/SC,SX
 L49 29 SEA ABB=ON PLU=ON L41 OR L43 OR L45 OR L46 OR L47 OR L48
 L50 0 SEA ABB=ON PLU=ON L37 AND L40
 L51 16 SEA ABB=ON PLU=ON L18 AND L40
 L52 42 SEA ABB=ON PLU=ON L17 AND (L40 OR L42 OR L44)
 L53 42 SEA ABB=ON PLU=ON L51 OR L52
 L54 10 SEA ABB=ON PLU=ON L53 AND (1840-2003)/PRY,AY,PY
 L55 56 SEA ABB=ON PLU=ON L37 OR L49 OR L54
 L56 2897 SEA ABB=ON PLU=ON BROWN, B?/AU
 L57 31 SEA ABB=ON PLU=ON VERES, J?/AU
 L58 23 SEA ABB=ON PLU=ON ANEMIAN, R?/AU
 L59 10561 SEA ABB=ON PLU=ON WILLIAMS, R?/AU
 L60 36 SEA ABB=ON PLU=ON OGIER, S?/AU
 L61 24 SEA ABB=ON PLU=ON LEEMING, S?/AU
 L62 4 SEA ABB=ON PLU=ON (L56 OR L57 OR L58 OR L59 OR L60 OR
 L61) AND L13
 L63 54 SEA ABB=ON PLU=ON L55 NOT

=> d que 144

L9 126358 SEA FILE=REGISTRY ABB=ON PLU=ON 2508.17/RID
 L14 25303 SEA FILE=REGISTRY ABB=ON PLU=ON 5391.6/RID
 L17 109 SEA FILE=REGISTRY ABB=ON PLU=ON 10645.1/RID
 L22 81 SEA FILE=REGISTRY ABB=ON PLU=ON 11987.1/RID
 L23 106390 SEA FILE=HCAPLUS ABB=ON PLU=ON L9
 L24 71012 SEA FILE=HCAPLUS ABB=ON PLU=ON L14
 L25 287 SEA FILE=HCAPLUS ABB=ON PLU=ON L17
 L26 145 SEA FILE=HCAPLUS ABB=ON PLU=ON L22
 L27 42 SEA FILE=HCAPLUS ABB=ON PLU=ON (L25 OR L26) AND ELECTRIC?
 /SC, SX
 L28 4243 SEA FILE=HCAPLUS ABB=ON PLU=ON (L23 OR L24) AND ELECTRIC?
 /SC, SX
 L29 859 SEA FILE=HCAPLUS ABB=ON PLU=ON L28 AND (SEMICONDUCT? OR
 SEMI (A) CONDUCT?)
 L30 288 SEA FILE=HCAPLUS ABB=ON PLU=ON L29 AND DEV/RL
 L31 15 SEA FILE=HCAPLUS ABB=ON PLU=ON L27 AND (SEMICONDUCT? OR
 SEMI (A) CONDUCT?)
 L32 226 SEA FILE=HCAPLUS ABB=ON PLU=ON L30 AND (LAYER? OR FILM?
 OR BILAYER? OR SHEET? OR THINLAYER? OR LAMIN? OR OVERLAY?
 OR OVERLAID? OR MULTILAYER?)
 L33 127 SEA FILE=HCAPLUS ABB=ON PLU=ON L32 AND (1840-2003)/PRY,AY
 ,PY
 L34 7472 SEA FILE=HCAPLUS ABB=ON PLU=ON "SEMICONDUCTOR FILMS"+PFT,
 NT,NEW,OLD/CT
 L35 6 SEA FILE=HCAPLUS ABB=ON PLU=ON L33 AND L34
 L36 6 SEA FILE=HCAPLUS ABB=ON PLU=ON L33 AND SEMICONDUCTOR
 FILMS?
 L37 50 SEA FILE=HCAPLUS ABB=ON PLU=ON L33 AND ?CONDUCT?(2A) (LAYE
 R? OR FILM? OR BILAYER? OR SHEET? OR THINLAYER? OR LAMIN?
 OR OVERLAY? OR OVERLAID? OR MULTILAYER?)
 L38 61 SEA FILE=HCAPLUS ABB=ON PLU=ON L31 OR (L35 OR L36 OR
 L37)
 L39 57 SEA FILE=HCAPLUS ABB=ON PLU=ON L38 AND (1840-2003)/PRY,AY
 ,PY
 L41 25 SEA FILE=HCAPLUS ABB=ON PLU=ON L32 AND (ORGANIC(A) (SEMICO
 NDUCT? OR SEMI (A) CONDUCT?) (A) LAYER?)
 L42 25 SEA FILE=HCAPLUS ABB=ON PLU=ON L41 AND ELECTRIC?/SC, SX
 L43 13 SEA FILE=HCAPLUS ABB=ON PLU=ON L42 AND (1840-2003)/PRY,AY
 ,PY
 L44 57 SEA FILE=HCAPLUS ABB=ON PLU=ON L43 OR L39

=> d 144 1-57 ibib ed abs hitstr hitind

L44 ANSWER 1 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2005:546963 HCAPLUS Full-text
 DOCUMENT NUMBER: 143:69946
 TITLE: Multi-layered device and method for
 making the same
 INVENTOR(S): Litz, Kyle Erik; Parthasarathy, Gautam
 PATENT ASSIGNEE(S): General Electric Company, USA
 SOURCE: U.S. Pat. Appl. Publ., 13 pp.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005136285	A1	20050623	US 2003-742863	20031223

PRIORITY APPLN. INFO.:

US 2003-742863

20031223

ED Entered STN: 24 Jun 2005

AB Methods for making **multilayered** devices, especially light-emitting or photovoltaic devices, are described which entail determining a desired sequence of ≥ 2 polymers in the device; for each of the polymers in the desired sequence, identifying a solubility window in a solubility graph, and selecting a solvent based on the solubility window so that the solvent does not dissolve a preceding polymer in the desired sequence; depositing each of the polymers from its selected solvent; and forming a multi-**layered** device having the polymers in the desired sequence. Devices fabricated according to the methods are also described.

IT 33773-67-0

(**multilayered** devices fabricated by sequential deposition of dissolved polymers and the methods of fabricating them)

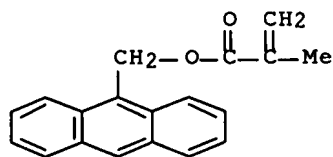
RN 33773-67-0 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 9-anthracenylmethyl ester, polymer with methyl 2-methyl-2-propenoate (CA INDEX NAME)

CM 1

CRN 31645-35-9

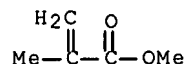
CMF C19 H16 O2



CM 2

CRN 80-62-6

CMF C5 H8 O2



IC ICM B32B009-00

ICS B05D005-12

INCL 428690000; 313504000; 427066000

CC 76-3 (**Electric** Phenomena)

Section cross-reference(s): 38, 73

ST electronic device multiple polymer **layer** prodn;electroluminescent device multiple polymer **layer** prodn;photovoltaic device multiple polymer **layer** prodn;

multilayered device fabrication sequential deposition
dissolved polymer

IT Electroluminescent devices
Photoelectric devices
Semiconductor device fabrication
(**multilayered** devices fabricated by sequential deposition
of dissolved polymers and the methods of fabricating them)

IT Poly(arylenealkenylenes)
(**multilayered** devices fabricated by sequential deposition
of dissolved polymers and the methods of fabricating them)

IT **Semiconductor** devices
(polymer; **multilayered** devices fabricated by sequential
deposition of dissolved polymers and the methods of fabricating
them)

IT **33773-67-0** 95270-88-5D, Polyfluorene, derivs. 195456-48-5,
ADS 329 854752-27-5, KL 22 (acrylic polymer)
(**multilayered** devices fabricated by sequential deposition
of dissolved polymers and the methods of fabricating them)

L44 ANSWER 2 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:414412 HCAPLUS Full-text
DOCUMENT NUMBER: 142:474090
TITLE: Gate insulated heterojunction organic
semiconductor field effect transistor and
its manufacture
INVENTOR(S): Yan, Donghang; Zhang, Jian; Wang, Jun; Wang,
Haibo; Yan, Xuanjun
PATENT ASSIGNEE(S): Changhun Institute of Applied Chemistry, Chinese
Academy of Sciences, Peop. Rep. China
SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 14
pp.
CODEN: CNXXEV
DOCUMENT TYPE: Patent
LANGUAGE: Chinese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

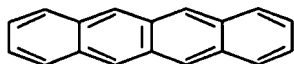
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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CN 1430293	A	20030716	CN 2003-102064	20030130
			<--	
EP 1443570	A2	20040804	EP 2003-254040	20030625
			<--	
EP 1443570	A3	20051109		
			R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,	
			PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK	
US 2004150050	A1	20040805	US 2003-614987	20030709
			<--	
US 6806492	B2	20041019		
JP 2004235624	A	20040819	JP 2004-3290	20040108
			<--	
PRIORITY APPLN. INFO.:			CN 2003-102064	A 20030130
			<--	

ED Entered STN: 16 May 2005

AB The organic **semiconductor** field effect transistor (FET) consists of a
substrate, a gate, a gate insulator, the first **semiconductor layer**, a
source/drain, and the **second semiconductor layer** in sequence. The first
semiconductor layer is one of organic compds., and the second one is ≥ 2 of
organic compds. The organic compound is phthalocyanin Cu, phthalocyanin Ni,
phthalocyanin Zn, phthalocyanin Co, phthalocyanin Pt, phthalocyanin,

phthalocyanin titanyl, phthalocyanin vanadyl, thiophene oligomer, polythiophen, naphthacene, pentacene, pyrene, pyrenedicarboxylic anhydride, fullerene, fluorinated phthalocyanin Cu, etc.

IT 92-24-0, Naphthacene
(gate insulated heterojunction organic **semiconductor** FET)
RN 92-24-0 HCAPLUS
CN Naphthacene (CA INDEX NAME)



IC ICM H01L051-20
ICS H01L051-40
CC 76-3 (**Electric** Phenomena)
ST heterojunction field effect transistor org **semiconductor**
metal phthalocyanine
IT Field effect transistors
(heterojunction; gate insulated heterojunction organic
semiconductor FET)
IT 92-24-0, Naphthacene 129-00-0, Pyrene, processes 135-48-8,
Pentacene 147-14-8, Copper Phthalocyanine 574-93-6, Phthalocyanine
3317-67-7, Cobalt Phthalocyanine 7440-25-7, Tantalum, processes
7440-57-5, Gold, processes 13930-88-6, VanadylPhthalocyanine
14055-02-8, Nickel Phthalocyanine 14075-08-2, Platinum
Phthalocyanine 14320-04-8, Zinc Phthalocyanine 14916-87-1
25233-34-5, Polythiophene 26201-32-1, TitanylPhthalocyanine
66771-41-3, Tantalum hydroxide oxide 68600-18-0, Pyrenedicarboxylic
acid
(gate insulated heterojunction organic **semiconductor** FET)

L44 ANSWER 3 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:409824 HCAPLUS Full-text
DOCUMENT NUMBER: 142:440277
TITLE: Organic thin **film** transistor
INVENTOR(S): Nakamura, Hiroaki; Yamamoto, Hiroshi
PATENT ASSIGNEE(S): Idemitsu Kosan Co., Ltd., Japan
SOURCE: PCT Int. Appl., 89 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005043630	A1	20050512	WO 2004-JP16293	20041027

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W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA,
CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR,
KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX,
MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE,
SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC,
VN, YU, ZA, ZM, ZW
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW,

AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ,
 DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL,
 PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
 GW, ML, MR, NE, SN, TD, TG

JP 2005136317	A	20050526	JP 2003-372558	20031031
			<--	
EP 1679747	A1	20060712	EP 2004-793326	20041027
			<--	
R: BE, DE, FR, GB, NL				
CN 1902761	A	20070124	CN 2004-80039496	20041027
			<--	
PRIORITY APPLN. INFO.:			JP 2003-372558	A 20031031
			<--	
			WO 2004-JP16293	W 20041027

ED Entered STN: 13 May 2005

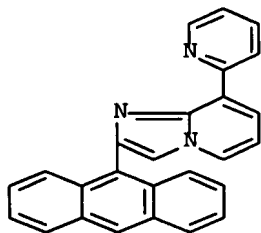
AB Disclosed is an organic thin **film** transistor wherein ≥ 3 terminals, a gate electrode, a source electrode and a drain electrode, an insulating **layer** and an **organic semiconductor layer** are formed on a substrate, and the current between the source and drain is controlled by applying a voltage to the gate electrode. The **organic semiconductor layer** contains a N-containing heterocyclic compound wherein a five-membered N-containing ring is condensed with a five-membered or six-membered ring in the condensed portion. Such an organic thin **film** transistor has a high response speed and a large on/off ratio.

IT **851053-44-6**

(organic TFTs with high response speed and large ON/OFF ratio)

RN 851053-44-6 HCAPLUS

CN Imidazo[1,2-a]pyridine, 2-(9-anthracenyl)-8-(2-pyridinyl)- (9CI) (CA INDEX NAME)



IC ICM H01L029-786

ICS H01L021-336; H01L051-00; C07D471-04; C07D487-04; C07D498-04;
 C07D519-00

CC 76-3 (**Electric** Phenomena)

ST org thin **film** transistor **semiconductor**

IT **Semiconductor films**

(organic; for organic TFTs with high response speed and large ON/OFF ratio)

IT Thin **film** transistors

(organic; organic TFTs with high response speed and large ON/OFF ratio)

IT 234-70-8, Imidazo[2,1-a]isoquinoline 274-47-5, Imidazo[1,5-a]pyridine 874-39-5 1502-46-1 2176-59-2 3323-80-6 4105-21-9
 6124-13-6 13212-76-5 13212-82-3 18121-79-4 33299-27-3
 38922-71-3 38922-75-7 49619-03-6 52095-58-6 58582-13-1
 64270-43-5 65267-38-1 65963-94-2 65964-13-8 65964-32-1

65964-60-5	65964-65-0	73332-58-8	76435-91-1	79159-65-2
85102-26-7	88965-00-8	118000-47-8	142073-93-6	142073-96-9
240135-99-3	259193-96-9	259193-98-1	304685-49-2	307503-24-8
314257-97-1	324741-39-1	324741-46-0	324741-50-6	324741-54-0
324741-58-4	324741-60-8	324741-62-0	324741-64-2	329934-02-3
790644-25-6	851053-32-2	851053-33-3	851053-34-4	851053-35-5
851053-36-6	851053-37-7	851053-38-8	851053-39-9	851053-40-2
851053-41-3	851053-42-4	851053-43-5	851053-44-6	
851053-45-7	851053-46-8	851053-47-9	851053-48-0	851053-49-1
851053-50-4	851053-51-5	851053-52-6	851053-53-7	851053-54-8
851053-56-0	851053-60-6	851053-62-8	851053-63-9	851053-64-0
851053-65-1	851053-66-2	851053-67-3	851053-68-4	851053-69-5
851053-70-8	851053-71-9	851053-72-0	851053-73-1	851053-74-2
851053-75-3	851053-76-4	851053-77-5		

(organic TFTs with high response speed and large ON/OFF ratio)

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN THE
RE FORMAT

L44 ANSWER 4 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2005:353782 HCAPLUS Full-text

DOCUMENT NUMBER: 142:421659

TITLE: Protective **layer**-containing organic
semiconductor field effect transistor and
its manufacture

INVENTOR(S): Yan, Donghang; Yuan, Jianfeng; Yan, Xuanjun

PATENT ASSIGNEE(S): Changchun Institute of Applied Chemistry, Chinese
Academy of Sciences, Peop. Rep. China

SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 10
pp.

CODEN: CNXXEV

DOCUMENT TYPE: Patent

LANGUAGE: Chinese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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CN 1437272	A	20030820	CN 2003-105024	20030303
			<--	
JP 2004266267	A	20040924	JP 2004-17237	20040126
			<--	
KR 2004078548	A	20040910	KR 2004-8308	20040209
			<--	

PRIORITY APPLN. INFO.: CN 2003-105024 A 20030303
<--

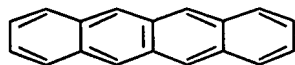
ED Entered STN: 25 Apr 2005

AB The organic **semiconductor** field effect transistor consists of a substrate, a gate electrode, a gate insulating **layer** on the gate electrode, 2 **organic semiconductor layers** on the gate insulating **layer**, a protective **layer** on the **semiconductor layer**, and a source/drain. The **organic semiconductor layer** is phthalocyanine Cu, phthalocyanine Ni, phthalocyanine Zn, phthalocyanine Co, phthalocyanine Pt, phthalocyanine, phthalocyanine vanadyl, phthalocyanine titanyl, polythiophene, naphthacene, pentacene, pyrene, pyrenedicarboxylic anhydride, fullerene, fluorinated phthalocyanine Cu, fluorinated phthalocyanine Zn, fluorinated phthalocyanine Fe, and/or fluorinated phthalocyanine Co. The protective **layer** is inorg. compound, organic compound, and/or polymer.

IT 92-24-0P, Naphthacene

(organic **semiconductor** field effect transistor containing

protective layer)
 RN 92-24-0 HCAPLUS
 CN Naphthacene (CA INDEX NAME)



IC ICM H01L051-20
 ICS H01L051-40
 CC 76-3 (**Electric** Phenomena)
 ST org **semiconductor** field effect transistor copper nickel zinc
 phthalocyanine; titanyl vanadyl phthalocyanine gate electrode
 insulator org **semiconductor**
 IT Electric insulators
 Field effect transistors
Semiconductor devices
Semiconductor films
 (organic **semiconductor** field effect transistor containing
 protective layer)
 IT Fluoropolymers, uses
 Metallophthalocyanines
 (organic **semiconductor** field effect transistor containing
 protective layer)
 IT 147-14-8, Copper phthalocyanine
 (organic **semiconductor** field effect transistor containing
 protective layer)
 IT **92-24-0P**, Naphthacene 129-00-0P, Pyrene, uses 135-48-8P,
 Pentacene 574-93-6P, Phthalocyanine 1314-61-0P, Tantalum(V) oxide
 3317-67-7P, Cobalt Phthalocyanine 7440-25-7P, Tantalum, uses
 9002-89-5P, Polyvinyl alcohol 13930-88-6P, Vanadyl Phthalocyanine
 14055-02-8P, Nickel Phthalocyanine 14075-08-2P, Platinum
 Phthalocyanine 14320-04-8P, Zinc Phthalocyanine 25233-34-5P,
 Polythiophene 26201-32-1P, Titanyl Phthalocyanine 76895-43-7P,
 3H,5H-Pyreno[1,10-cd]pyran-3,5-dione 99685-96-8P, Fullerene
 (organic **semiconductor** field effect transistor containing
 protective layer)

L44 ANSWER 5 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2005:324446 HCAPLUS Full-text
 DOCUMENT NUMBER: 142:383879
 TITLE: Organic diodes and materials
 INVENTOR(S): Marrocco, Matthew L., III; Motamedi, Farshad J.
 PATENT ASSIGNEE(S): Maxdem Incorporated, USA
 SOURCE: PCT Int. Appl., 52 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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WO 2005034199	A2	20050414	WO 2004-US32399	20040929
			<--	
WO 2005034199	A3	20070222		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA,
CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP,
KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,
MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD,
SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ,
VC, VN, YU, ZA, ZM, ZW

RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW,
AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ,
DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL,
PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
GW, ML, MR, NE, SN, TD, TG

DE 112004001858 T5 20060810 DE 2004-112004001858 20040929

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PRIORITY APPLN. INFO.:

US 2003-508781P P 20031002

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US 2004-953598 A 20040928

WO 2004-US32399 W 20040929

ED Entered STN: 15 Apr 2005

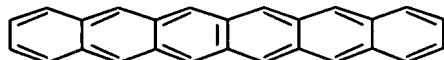
AB Diodes from organic **semiconductors** with slowly diffusing dopants during device lifetime are claimed. Diodes having p-type and n-type regions in contact, having at least one of either the p-type region or n-type region including a conjugated organic material doped with an immobile dopant, conjugated organic materials for incorporation into such diodes, and methods of manufacturing such diodes and materials are provided.

IT 258-31-1, Hexacene

(organic diodes and materials with low diffusion of dopants)

RN 258-31-1 HCAPLUS

CN Hexacene (CA INDEX NAME)



IC ICM H01L

CC 76-3 (**Electric** Phenomena)

Section cross-reference(s): 38

IT Chromophores

Coating process

Conjugation (bond)

Diodes

Dopants

Electroluminescent devices

Photoelectric devices

Printing (impact)

Printing (nonimpact)

Semiconductor devices

Transistors

Zwitterions

(organic diodes and materials with low diffusion of dopants)

IT 92-24-0, Tetracene 135-48-8, Pentacene 198-55-0, Perylene

253-82-7D, Quinazoline, polymer derivs. 258-31-1, Hexacene

574-93-6, Phthalocyanine 588-59-0, Stilbene 5632-29-1,

Tetrathienophene 5660-45-7 9003-64-9, Polyindene 9033-83-4,

Poly(phenylene) 25038-69-1, Polyphenylacetylene 25233-34-5,
 Polythiophene 26140-60-3, Terphenyl 27290-25-1, Polypthalocyanine
 27987-87-7, Polydiacetylene 30604-81-0, Polypyrrole 51555-21-6,
 Polycarbazole 88493-55-4 95270-88-5, Polyfluorene 96638-49-2,
 Polyphenylenevinylene 134020-79-4, Sapphyrin 134020-79-4D,
 Sapphyrin, polymer derivs. 189752-49-6, Texaphyrin 189752-49-6D,
 Texaphyrin, polymer derivs.

(organic diodes and materials with low diffusion of dopants)

L44 ANSWER 6 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2005:300773 HCAPLUS Full-text

DOCUMENT NUMBER: 142:381889

TITLE: Light-emitting devices with extended lifetimes
 employing a mixed **layer** of

semiconductor oxide and hole-transporting
 material, such as an aromatic amine, and method
 for manufacturing the light-emitting devices

INVENTOR(S): Ikeda, Hisao; Sakata, Junichiro

PATENT ASSIGNEE(S): Semiconductor Energy Laboratory Co., Ltd., Japan

SOURCE: PCT Int. Appl., 60 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005031798	A2	20050407	WO 2004-JP14412	20040924

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WO 2005031798 A3 20050526

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA,
 CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
 GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP,
 KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,
 MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD,
 SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ,
 VC, VN, YU, ZA, ZM, ZW

RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW,
 AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ,
 DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL,
 PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
 GW, ML, MR, NE, SN, TD, TG

JP 3748110	B1	20060222	JP 2004-276909	20040924
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JP 2006114521	A	20060427		
CN 1860829	A	20061108	CN 2004-80027991	20040924

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EP 1776846	A2	20070425	EP 2004-773500	20040924
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R: DE, FI, FR, GB, NL				
JP 2006114477	A	20060427	JP 2005-167991	20050608

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PRIORITY APPLN. INFO.: JP 2003-336295 A 20030926

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JP 2004-267426 A 20040914

JP 2004-276909 A3 20040924

WO 2004-JP14412 W 20040924

ED Entered STN: 07 Apr 2005

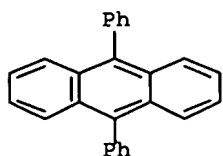
AB A light-emitting element is disclosed that can drive at a low driving voltage and that has a longer lifetime than the conventional light-emitting element, and which comprises a plurality of **layers** between a pair of electrodes; and at least one **layer** among the plurality of **layers** contains one compound selected from the group consisting of oxide **semiconductor** and a metal oxide, and a compound having high hole transportation properties. The lifetime of the light-emitting element can be extended because such light-emitting element can suppress the crystallization of a **layer** containing one compound selected from the group consisting of oxide **semiconductor** and a metal oxide, and a compound having high hole transportation properties. Methods for fabricating of the light-emitting devices by co-evaporation are also discussed as are display devices employing the light-emitting device.

IT **1499-10-1**, 9,10-Di(phenyl)anthracene **28351-02-2**,
Diphenylanthracene

(light-emitting devices with extended lifetimes employing mixed
layer of **semiconductor** oxide and
hole-transporting material and method for manufacturing light-emitting
devices)

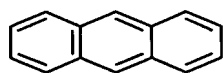
RN 1499-10-1 HCAPLUS

CN Anthracene, 9,10-diphenyl- (CA INDEX NAME)



RN 28351-02-2 HCAPLUS

CN Anthracene, diphenyl- (CA INDEX NAME)



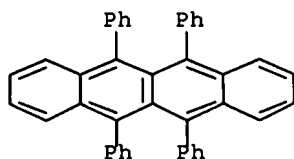
2 (D1-Ph)

IT **517-51-1**, Rubrene

(light-emitting devices with extended lifetimes employing mixed
layer of **semiconductor** oxide and
hole-transporting material and method for manufacturing light-emitting
devices)

RN 517-51-1 HCAPLUS

CN Naphthacene, 5,6,11,12-tetraphenyl- (CA INDEX NAME)



- IC ICM H01L
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
 Section cross-reference(s): 76
- IT Amines, uses
 (aromatic, hole-transporting material; light-emitting devices with extended lifetimes employing mixed **layer** of **semiconductor** oxide and hole-transporting material and method for manufacturing light-emitting devices)
- IT Vapor deposition process
 (co-evaporation; light-emitting devices with extended lifetimes employing mixed **layer** of **semiconductor** oxide and hole-transporting material and method for manufacturing light-emitting devices)
- IT Electroluminescent devices
 (displays; light-emitting devices with extended lifetimes employing mixed **layer** of **semiconductor** oxide and hole-transporting material and method for manufacturing light-emitting devices)
- IT Luminescent screens
 (electroluminescent; light-emitting devices with extended lifetimes employing mixed **layer** of **semiconductor** oxide and hole-transporting material and method for manufacturing light-emitting devices)
- IT Electroluminescent devices
Semiconductor device fabrication
 (light-emitting devices with extended lifetimes employing mixed **layer** of **semiconductor** oxide and hole-transporting material and method for manufacturing light-emitting devices)
- IT 7439-98-7, Molybdenum, uses 7440-25-7, Tantalum, uses 7440-32-6, Titanium, uses 7440-33-7, Tungsten, uses 7440-47-3, Chromium, uses 11099-22-2 11106-92-6 12033-62-4, Tantalum nitride 25583-20-4, Titanium nitride
 (electrode; light-emitting devices with extended lifetimes employing mixed **layer** of **semiconductor** oxide and hole-transporting material and method for manufacturing light-emitting devices)
- IT **1499-10-1**, 9,10-Di(phenyl)anthracene 2397-00-4, 4,4'-Bis(5-methylbenzoxazol-2-yl)stilbene 7631-86-9, Silica, uses **28351-02-2**, Diphenylanthracene 135700-84-4 155306-71-1, Coumarin 545T 276856-29-2
 (light-emitting devices with extended lifetimes employing mixed **layer** of **semiconductor** oxide and hole-transporting material and method for manufacturing light-emitting devices)
- IT 7439-93-2, Lithium, uses
 (light-emitting devices with extended lifetimes employing mixed **layer** of **semiconductor** oxide and hole-transporting material and method for manufacturing light-emitting devices)

- IT 517-51-1, Rubrene 38215-36-0, Coumarin 6
(light-emitting devices with extended lifetimes employing mixed
layer of **semiconductor** oxide and
hole-transporting material and method for manufacturing light-emitting
devices)
- IT 1313-27-5, Molybdenum oxide (MoO₃), properties 2085-33-8, Aluminum
tris(8-hydroxyquinolinato) 123847-85-8, 4,4'-Bis[N-(1-naphthyl)-N-
phenylamino]biphenyl 199121-98-7
(light-emitting devices with extended lifetimes employing mixed
layer of **semiconductor** oxide and
hole-transporting material and method for manufacturing light-emitting
devices)

L44 ANSWER 7 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2005:140442 HCAPLUS Full-text

DOCUMENT NUMBER: 142:252284

TITLE: Acene-thiophene **semiconductors** for use
in thin film transistors

INVENTOR(S): Gerlach, Christopher P.

PATENT ASSIGNEE(S): 3M Innovative Properties Company, USA

SOURCE: U.S. Pat. Appl. Publ., 22 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005035333	A1	20050217	US 2003-641730	20030815
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US 6998068	B2	20060214		
WO 2005019198	A1	20050303	WO 2004-US20349	20040625
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W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
EP 1654248	A1	20060510	EP 2004-756064	20040625
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R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK			
CN 1835941	A	20060920	CN 2004-80023410	20040625
			<--	
JP 2007502812	T	20070215	JP 2006-523834	20040625
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US 2006033086	A1	20060216	US 2005-256281	20051020
			<--	
PRIORITY APPLN. INFO.:			US 2003-641730	A 20030815
			<--	
			WO 2004-US20349	W 20040625

OTHER SOURCE(S): MARPAT 142:252284

ED Entered STN: 18 Feb 2005

AB This invention relates to organic compds. that are useful as **semiconductors** and, in another aspect, to devices comprising the compds., and to methods of preparing devices comprising the compds. Acene-thiophene compds. are disclosed that are useful as organic **semiconductors**. The compds., when used as the **semiconductor layer** in organic thin-film transistors exhibit device characteristics, like charge-carrier mobilities and current on/off ratios, that are comparable to those of pentacene. Also described are **semiconductor** devices comprising at least one compound of the invention; and articles comprising the **semiconductor** devices such as thin **film** transistors or transistor arrays, and electroluminescent lamps.

IT 844633-95-0P 844633-96-1P 844633-97-2P

844633-98-3P 844633-99-4P 844634-00-0P

844634-01-1P

(acene-thiophene **semiconductors** for use in thin
film transistors)

RN 844633-95-0 HCAPLUS

CN 2,2'-Bithiophene, 5,5'-di-2-anthracenyl- (9CI) (CA INDEX NAME)



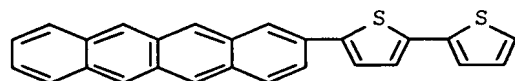
RN 844633-96-1 HCAPLUS

CN 2,2'-Bithiophene, 5,5'-di-2-naphthacenyl- (9CI) (CA INDEX NAME)



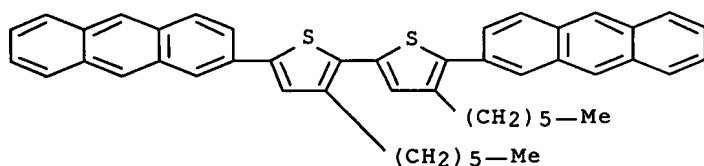
RN 844633-97-2 HCAPLUS

CN 2,2'-Bithiophene, 5-(2-naphthacenyl)- (9CI) (CA INDEX NAME)



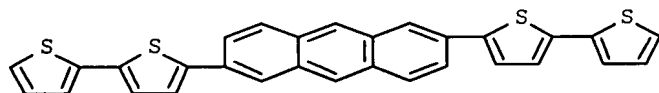
RN 844633-98-3 HCAPLUS

CN 2,2'-Bithiophene, 5,5'-di-2-anthracenyl-3,4'-dihexyl- (9CI) (CA INDEX
NAME)



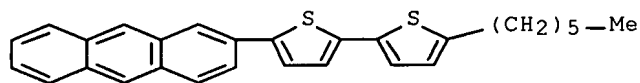
RN 844633-99-4 HCAPLUS

CN 2,2'-Bithiophene, 5,5'-(2,6-anthracenediyl)bis- (9CI) (CA INDEX NAME)



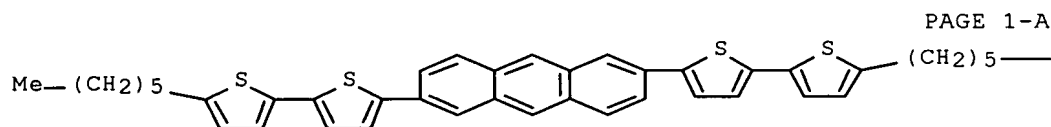
RN 844634-00-0 HCAPLUS

CN 2,2'-Bithiophene, 5-(2-anthracenyl)-5'-hexyl- (9CI) (CA INDEX NAME)



RN 844634-01-1 HCAPLUS

CN 2,2'-Bithiophene, 5,5'-(2,6-anthracenediyl)bis[5'-hexyl- (9CI) (CA INDEX NAME)



PAGE 1-A

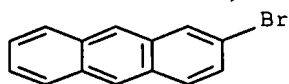
PAGE 1-B

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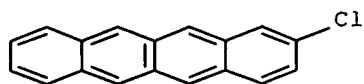
IT 7321-27-9P, 2-Bromoanthracene 62775-17-1P
(acene-thiophene **semiconductors** for use in thin
film transistors)

RN 7321-27-9 HCAPLUS

CN Anthracene, 2-bromo- (CA INDEX NAME)



RN 62775-17-1 HCAPLUS
 CN Naphthacene, 2-chloro- (7CI, 9CI) (CA INDEX NAME)



IC ICM H01B001-00
 INCL 252500000
 CC 76-3 (**Electric** Phenomena)
 Section cross-reference(s): 27, 73
 ST polyacene polythiophene thin **film** transistor
semiconductor device fabrication
 IT Dielectric **films**
 Electroluminescent devices
 Gate contacts
 Self-assembled monolayers
 (acene-thiophene **semiconductors** for use in thin
film transistors)
 IT Polysiloxanes, uses
 (acene-thiophene **semiconductors** for use in thin
film transistors)
 IT Polyacenes
 (acene-thiophene **semiconductors** for use in thin
film transistors)
 IT Thin **film** transistors
 (organic; acene-thiophene **semiconductors** for use in thin
film transistors)
 IT Conducting polymers
 (polythiophenes; acene-thiophene **semiconductors** for use
 in thin **film** transistors)
 IT 844633-95-0P 844633-96-1P 844633-97-2P
 844633-98-3P 844633-99-4P 844634-00-0P
 844634-01-1P
 (acene-thiophene **semiconductors** for use in thin
film transistors)
 IT 7321-27-9P, 2-Bromoanthracene 62775-17-1P
 844633-94-9P
 (acene-thiophene **semiconductors** for use in thin
film transistors)
 REFERENCE COUNT: 51 THERE ARE 51 CITED REFERENCES AVAILABLE FOR
 THIS RECORD. ALL CITATIONS AVAILABLE IN THE
 RE FORMAT

L44 ANSWER 8 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2005:57981 HCAPLUS Full-text
 DOCUMENT NUMBER: 142:146457
 TITLE: Bis(2-acenyl)acetylene **semiconductors**

INVENTOR(S): Gerlach, Christopher P.
 PATENT ASSIGNEE(S): 3M Innovative Properties Company, USA
 SOURCE: U.S. Pat. Appl. Publ., 16 pp.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005012090	A1	20050120	US 2003-620027	20030715
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US 7109519	B2	20060919		
WO 2005014511	A1	20050217	WO 2004-US17108	20040602
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RW:	BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
EP 1654207	A1	20060510	EP 2004-753848	20040602
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CN 1823027	A	20060823	CN 2004-80020332	20040602
			<--	
PRIORITY APPLN. INFO.:			US 2003-620027	A 20030715
			<--	
			WO 2004-US17108	W 20040602

OTHER SOURCE(S): MARPAT 142:146457

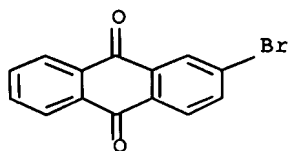
ED Entered STN: 21 Jan 2005

AB Bis(2-acenyl)acetylene compds. that are useful as stable and reproducible organic **semiconductors** are disclosed. The compds., when used as the active **layer** in OTFTs exhibit device characteristics, like charge-carrier mobilities and current on/off ratios, that are comparable to those of pentacene. Also described are **semiconductor** devices comprising at least one compound of the invention; and articles comprising the **semiconductor** devices such as thin **film** transistors or transistor arrays, and electroluminescent lamps.

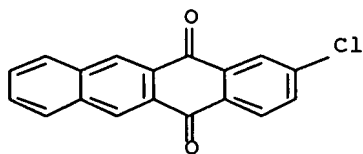
IT 572-83-8, 2-Bromoanthraquinone
 (in preparation of bromoanthracene)

RN 572-83-8 HCAPLUS

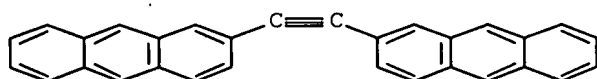
CN 9,10-Anthracenedione, 2-bromo- (CA INDEX NAME)



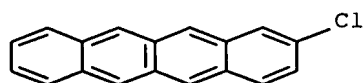
IT **85600-52-8**, 2-Chloro-5,12-tetracenequinone
 (in preparation of chlorotetracene)
 RN 85600-52-8 HCAPLUS
 CN 5,12-Naphthacenedione, 2-chloro- (9CI) (CA INDEX NAME)



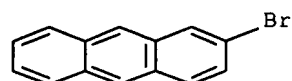
IT **827345-90-4P**
 (preparation and properties of)
 RN 827345-90-4 HCAPLUS
 CN Anthracene, 2,2'-(1,2-ethynediyl)bis- (9CI) (CA INDEX NAME)



IT **62775-17-1P**, 2-Chlorotetracene
 (preparation and reactions of)
 RN 62775-17-1 HCAPLUS
 CN Naphthacene, 2-chloro- (7CI, 9CI) (CA INDEX NAME)



IT **7321-27-9P**, 2-Bromoanthracene
 (preparation and reactions of)
 RN 7321-27-9 HCAPLUS
 CN Anthracene, 2-bromo- (CA INDEX NAME)



IC ICM H01L035-24
 ICS C07C013-465; C07C050-16
 INCL 257040000; 552271000; 585026000

CC 76-3 (**Electric** Phenomena)
 Section cross-reference(s): 24
 ST acenylacetylene **semiconductor** compd device
 IT **Semiconductor films**
 Semiconductor materials
 Thin **film** transistors
 Transistors
 (bis(2-acenyl)acetylene **semiconductors** and devices)
 IT Electric lamps
 (electroluminescent; bis(2-acenyl)acetylene **semiconductors**
 and devices)
 IT Self-assembled monolayers
 (for bis(acenyl)acetylene **film** devices)
 IT Polysiloxanes, uses
 (for bis(acenyl)acetylene **film** devices)
 IT Electroluminescent devices
 (lamps; bis(2-acenyl)acetylene **semiconductors** and
 devices)
 IT Polymers, uses
 (nonfluorinated; for bis(acenyl)acetylene **film** devices)
 IT 4721-17-9 4721-24-8 4724-48-5 31900-57-9, Poly(dimethylsiloxane)
 156048-34-9, Poly(dimethylsiloxane-co-diphenylsiloxane) 156048-35-0,
 Poly(dimethylsiloxane-co-methylphenylsiloxane) 164662-84-4,
 Poly(methylphenylsiloxane-co-diphenylsiloxane) 445388-37-4
 (for bis(acenyl)acetylene **film** devices)
 IT **572-83-8**, 2-Bromoanthraquinone
 (in preparation of bromoanthracene)
 IT **85600-52-8**, 2-Chloro-5,12-tetracenequinone
 (in preparation of chlorotetracene)
 IT **827345-90-4P**
 (preparation and properties of)
 IT **62775-17-1P**, 2-Chlorotetracene
 (preparation and reactions of)
 IT **7321-27-9P**, 2-Bromoanthracene
 (preparation and reactions of)
 IT 1344-28-1, Alumina, uses 7631-86-9, Silica, uses 25014-31-7,
 Poly(α -methylstyrene)
 (properties of bis(anthracenyl)acetylene **films** on
 substrates of)

REFERENCE COUNT: 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR
 THIS RECORD. ALL CITATIONS AVAILABLE IN THE
 RE FORMAT

L44 ANSWER 9 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2005:16045 HCAPLUS Full-text

DOCUMENT NUMBER: 142:125114

TITLE: Compound for forming a self-assembled monolayer, a
layer structure, a **semiconductor**
 element, and a method for producing a
layer structure

INVENTOR(S): Halik, Marcus; Schmid, Guenter; Klauk, Hagen;
 Zschieschang, Ute

PATENT ASSIGNEE(S): Infineon Technologies A.-G., Germany

SOURCE: PCT Int. Appl., 35 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005001952	A1	20050106	WO 2004-DE1342	20040623

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RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

DE 10329247	A1	20050127	DE 2003-10329247	20030624
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PRIORITY APPLN. INFO.:

DE 2003-10329247 A 20030624

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ED Entered STN: 07 Jan 2005

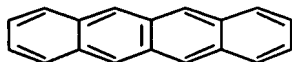
AB The invention relates to a compound for forming a self-assembled monolayer, particularly for forming a **layer** structure for an organic field effect transistor. The inventive compound is characterized by: (1) at least one anchor group for binding the mol. to a substrate, particularly an electrode material; (2) at least one dielec. group; and (3) at least one **semiconducting** group. The invention also relates to a **layer** structure made of the compound, to a **semiconductor** element, and to a method for producing the **layer** structure. This makes it possible to facilitate the production of **semiconductor** components, particularly those for organic field effect transistors.

IT 92-24-0D, Tetracene, derivs.

(**semiconductive** group; compound for forming a self-assembled monolayer, a **layer** structure, a **semiconductor** element, and a method for producing a **layer** structure)

RN 92-24-0 HCAPLUS

CN Naphthacene (CA INDEX NAME)



IC ICM H01L051-20

ICS H01L051-40

CC 76-3 (**Electric** Phenomena)

Section cross-reference(s): 38

IT Silanes

(alkoxy, monolayer anchor group; compound for forming a self-assembled monolayer, a **layer** structure, a **semiconductor** element, and a method for producing a **layer** structure)

IT Electric contacts

Electric insulators

Gate contacts

Glass substrates

Self-assembled monolayers

- Semiconductor** device fabrication
 (compound for forming a self-assembled monolayer, a **layer** structure, a **semiconductor** element, and a method for producing a **layer** structure)
- IT Oxides (inorganic), uses
 (contact material; compound for forming a self-assembled monolayer, a **layer** structure, a **semiconductor** element, and a method for producing a **layer** structure)
- IT Paper
 (device substrate; compound for forming a self-assembled monolayer, a **layer** structure, a **semiconductor** element, and a method for producing a **layer** structure)
- IT Amides, uses
 Amines, uses
 Phosphines
 Thiols, uses
 (monolayer anchor group; compound for forming a self-assembled monolayer, a **layer** structure, a **semiconductor** element, and a method for producing a **layer** structure)
- IT Field effect transistors
 (organic; compound for forming a self-assembled monolayer, a **layer** structure, a **semiconductor** element, and a method for producing a **layer** structure)
- IT Conducting polymers
 (polythiophenes, **semiconductive** group; compound for forming a self-assembled monolayer, a **layer** structure, a **semiconductor** element, and a method for producing a **layer** structure)
- IT Plastics, uses
 (substrate; compound for forming a self-assembled monolayer, a **layer** structure, a **semiconductor** element, and a method for producing a **layer** structure)
- IT 1344-28-1, Alumina, uses 7440-05-3, Palladium, uses 7440-06-4, Platinum, uses 7440-32-6, Titanium, uses 7440-50-8, Copper, uses 7440-57-5, Gold, uses 13463-67-7, Titania, uses
 (contact material; compound for forming a self-assembled monolayer, a **layer** structure, a **semiconductor** element, and a method for producing a **layer** structure)
- IT 9003-01-4D, Polyacrylic acid, derivs. 25087-26-7D, Polymethacrylic acid, derivs.
 (crosslinking group; compound for forming a self-assembled monolayer, a **layer** structure, a **semiconductor** element, and a method for producing a **layer** structure)
- IT 10025-78-2, Trichlorosilane
 (monolayer anchor group; compound for forming a self-assembled monolayer, a **layer** structure, a **semiconductor** element, and a method for producing a **layer** structure)
- IT 92-24-0D, Tetracene, derivs. 135-48-8D, Pentacene, derivs.
 (**semiconductive** group; compound for forming a self-assembled monolayer, a **layer** structure, a **semiconductor** element, and a method for producing a **layer** structure)
- IT 7440-21-3, Silicon, uses
 (substrate; compound for forming a self-assembled monolayer, a **layer** structure, a **semiconductor** element, and a method for producing a **layer** structure)

REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L44 ANSWER 10 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:1156715 HCAPLUS Full-text

DOCUMENT NUMBER: 142:84541

TITLE: Compound used to form a self-assembled monolayer,
layer structure, **semiconductor**
 component having a **layer** structure, and
 method for producing a **layer** structure

INVENTOR(S): Schmid, Guenter; Halik, Marcus; Klauk, Hagen;
 Zschieschang, Ute; Effenberger, Franz; Schuetz,
 Markus; Maisch, Steffen; Seifritz, Steffen;
 Buckel, Frank

PATENT ASSIGNEE(S): Infineon Technologies AG, Germany

SOURCE: PCT Int. Appl., 39 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004114371	A2	20041229	WO 2004-DE1318	20040618
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WO 2004114371	A3	20050331		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
DE 10328811	A1	20050127	DE 2003-10328811	20030620
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DE 10328811	B4	20051229		
EP 1636826	A2	20060322	EP 2004-738767	20040618
<--				
R: DE, FR, GB, IT, IE				
CN 1809580	A	20060726	CN 2004-80017305	20040618
<--				
US 2006175603	A1	20060810	US 2005-313250	20051220
<--				
PRIORITY APPLN. INFO.:			DE 2003-10328811	A 20030620
<--				
			WO 2004-DE1318	W 20040618

ED Entered STN: 30 Dec 2004

AB The invention relates to a compound used to form a self-assembled monolayer, especially a monolayer for a **semiconductor** component, the compound being characterized by a mol. group able to carry out a Π - Π interaction with other similar compds. and/or other different compds. for the stabilization of the monolayer. The invention also relates to a **layer** structure, a **semiconductor** component, and a method for producing a **layer** structure. In this way, a **semiconductor** component, especially an organic field-effect transistor, can be efficiently produced.

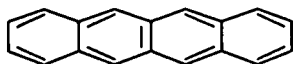
IT 92-24-ODP, Naphthacene, derivs. 120-12-7DP,

Anthracene, derivs.

(self-assembled monolayer; compound used to form a self-assembled monolayer, **layer** structure, **semiconductor** component having a **layer** structure, and method for producing a **layer** structure)

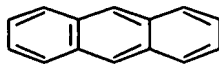
RN 92-24-0 HCAPLUS

CN Naphthacene (CA INDEX NAME)



RN 120-12-7 HCAPLUS

CN Anthracene (CA INDEX NAME)



IC ICM H01L021-00

CC 76-3 (**Electric** Phenomena)

ST self assembled monolayer field effect transistor **semiconductor** device fabrication

IT Silanes

(alkoxy, anchor group; compound used to form a self-assembled monolayer, **layer** structure, **semiconductor** component having a **layer** structure, and method for producing a **layer** structure)

IT Silanes

(anchor group; compound used to form a self-assembled monolayer, **layer** structure, **semiconductor** component having a **layer** structure, and method for producing a **layer** structure)

IT Dielectric **films**

Self-assembled monolayers

Semiconductor device fabrication

(compound used to form a self-assembled monolayer, **layer** structure, **semiconductor** component having a **layer** structure, and method for producing a **layer** structure)

IT Field effect transistors

(organic; compound used to form a self-assembled monolayer, **layer** structure, **semiconductor** component having a **layer** structure, and method for producing a **layer** structure)

IT 4109-96-0, Dichlorosilane 10025-78-2, Trichlorosilane 13465-78-6, Chlorosilane

(anchor group; compound used to form a self-assembled monolayer, **layer** structure, **semiconductor** component having a **layer** structure, and method for producing a **layer** structure)

IT 91-22-5, Quinoline, uses 95-15-8, Benzo[b]thiophene 95-16-9,

Benzothiazole 108-97-4, γ -Pyrone 109-97-7, Pyrrol
 110-00-9, Furan 110-02-1, Thiophene 110-86-1, Pyridine, uses
 119-65-3, Isoquinoline 120-72-9, Indole, uses 270-68-8,
 2H-Isoindole 271-89-6, Benzo[b]furan 288-13-1, Pyrazole
 288-14-2, Isoxazole 288-16-4, Isothiazole 288-32-4, Imidazole,
 uses 288-42-6, Oxazole 288-47-1, Thiazole 289-67-8, Pyrylium
 289-95-2, Pyrimidine 290-37-9, Pyrazine 504-31-4, α -Pyrone
 (self-assembled monolayer; compound used to form a self-assembled
 monolayer, **layer** structure, **semiconductor**
 component having a **layer** structure, and method for
 producing a **layer** structure)

IT 91-20-3DP, Naphthalene, derivs. **92-24-ODP**, Naphthacene,
 derivs. 92-52-4DP, Biphenyl, derivs. **120-12-7DP**,
 Anthracene, derivs. 135-48-8DP, Pentacene, derivs. 26140-60-3DP,
 Terphenyl, derivs. 29036-02-ODP, Quaterphenyl, derivs.
 61537-20-ODP, Quinquephenyl, derivs.
 (self-assembled monolayer; compound used to form a self-assembled
 monolayer, **layer** structure, **semiconductor**
 component having a **layer** structure, and method for
 producing a **layer** structure)

L44 ANSWER 11 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2004:1048205 HCAPLUS Full-text
 DOCUMENT NUMBER: 142:46028
 TITLE: Thin **film** transistor and display device
 fabrication
 INVENTOR(S): Ando, Masahiko; Wakagi, Masatoshi; Sasaki, Hiroshi
 PATENT ASSIGNEE(S): Hitachi Ltd., Japan
 SOURCE: U.S., 24 pp.
 CODEN: USXXAM
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6828582	B1	20041207	US 2004-786888	20040225
			<--	
JP 2005079560	A	20050324	JP 2003-312080	20030904
			<--	
US 2005051780	A1	20050310	US 2004-970224	20041021
			<--	
US 7202496	B2	20070410		
PRIORITY APPLN. INFO.:			JP 2003-312080	A 20030904
			<--	
			US 2004-786888	A1 20040225

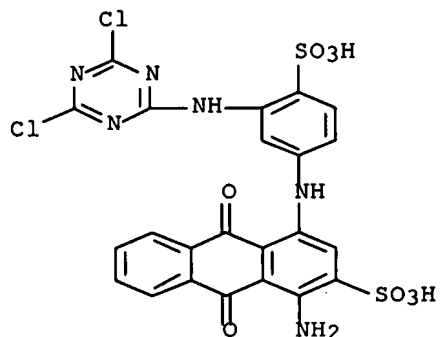
ED Entered STN: 07 Dec 2004

AB The present method prevents malfunctions in switching caused by a light leakage current in an active matrix type thin **film** transistor substrate for a liquid crystal display and prevents display failures, by selectively disposing a self-assembled monolayer **film** in a gate electrode-projected region of the surface of an insulator **film** with high definition, and by selectively improving the orientation order of an organic **semiconductor film** only in the gate electrode-projected region without improving the order at an irradiated portion with light outside the gate electrode-projected region.

IT **13324-20-4**, Mikacion brilliant blue RS
 (Mikacion brilliant blue RS; thin **film** transistor and display device fabrication)

RN 13324-20-4 HCAPLUS

CN 2-Anthracenesulfonic acid, 1-amino-4-[[3-[(4,6-dichloro-1,3,5-triazin-2-yl)amino]-4-sulfophenyl]amino]-9,10-dihydro-9,10-dioxo- (CA INDEX NAME)



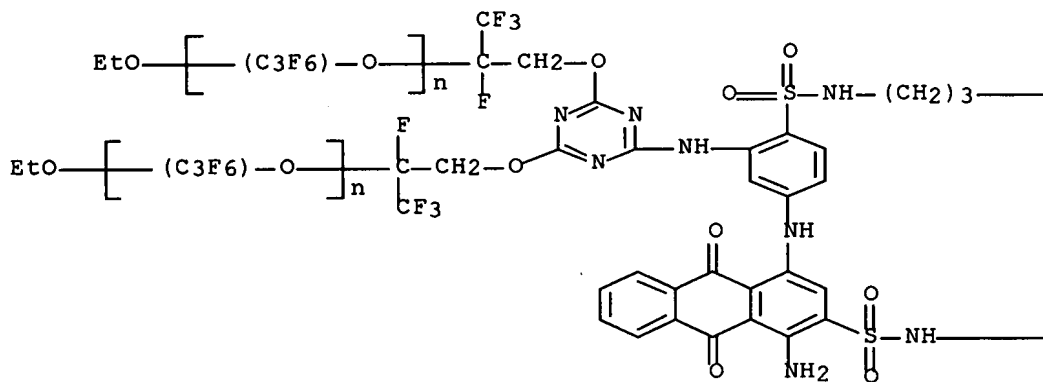
IT 803732-65-2

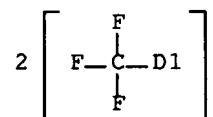
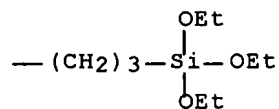
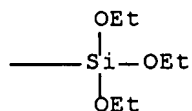
(thin film transistor and display device fabrication)

RN 803732-65-2 HCAPLUS

CN Poly[oxy(trifluoro(trifluoromethyl)-1,2-ethanediyl)],
 α, α' -[[6-[[5-[[4-amino-9,10-dihydro-9,10-dioxo-3-[[[3-(trimethoxysilyl)propyl]amino]sulfonyl]-1-anthracenyl]amino]-2-[[[3-(trimethoxysilyl)propyl]amino]sulfonyl]phenyl]amino]-1,3,5-triazine-2,4-diyl]bis[oxy[1-fluoro-1-(trifluoromethyl)-2,1-ethanediyl]]]bis[ω -[tetrafluoro(trifluoromethyl)ethoxy]- (9CI)
 (CA INDEX NAME)

PAGE 1-A





8 (D1—F)

IC ICM H01L035-24
ICS H01L051-00; H01L029-04; H01L031-036; H01L031-0376
INCL 257040000; 257059000; 257072000; 257350000
CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other
Reprographic Processes)
Section cross-reference(s): 76
ST thin **film** transistor display device fabrication
selfassembled monolayer
IT Liquid crystal displays
Self-assembled monolayers
Thin **film** transistors
(thin **film** transistor and display device fabrication)
IT 6539-67-9, C.I. Reactive Yellow 3
(C.I. Reactive Yellow 3; thin **film** transistor and display
device fabrication)
IT 163702-05-4
(HFE-7200; thin **film** transistor and display device
fabrication)
IT 90317-74-1, Krytox 157FS-L
(Krytox 157FS-L; thin **film** transistor and display device
fabrication)
IT 13324-20-4, Mikacion brilliant blue RS
(Mikacion brilliant blue RS; thin **film** transistor and
display device fabrication)
IT 307-34-6, PF-5080
(PF-5080; thin **film** transistor and display device

fabrication)
 IT 919-30-2, Sila-Ace S330
 (Sila-Ace S330; thin **film** transistor and display device
 fabrication)
 IT 690268-79-2 **803732-65-2**
 (thin **film** transistor and display device fabrication)
 IT 126066-30-6P 803732-66-3P
 (thin **film** transistor and display device fabrication)
 IT 538-75-0
 (thin **film** transistor and display device fabrication)
 REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR
 THIS RECORD. ALL CITATIONS AVAILABLE IN THE
 RE FORMAT

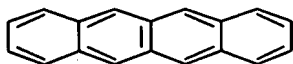
L44 ANSWER 12 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2004:1045674 HCAPLUS Full-text
 DOCUMENT NUMBER: 142:289317
 TITLE: Organic **semiconductor** of two or more of
 organic substances and its processing method
 INVENTOR(S): Yan, Donghang; Zhang, Jian; Wang, Haibo
 PATENT ASSIGNEE(S): Changchun Institute of Applied Chemistry, Chinese
 Academy of Sciences, Peop. Rep. China
 SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 7 pp.
 CODEN: CNXXEV
 DOCUMENT TYPE: Patent
 LANGUAGE: Chinese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
CN 1471182	A	20040128	CN 2003-145054	20030617
			<--	
PRIORITY APPLN. INFO.:			CN 2003-145054	20030617
			<--	

ED Entered STN: 07 Dec 2004

AB The organic **semiconductor** is prepared by co-crystallization, mixing, or
lamination from ≥ 2 kinds of phthalocyanine Cu (Ni, Zn, Co, or Pt),
 phthalocyanine, phthalocyanine Ti (or V) oxide, phthalocyanine V oxide,
 oligomer or polymer of thiophene, tetracene, pentacene, pyrene,
 pyrenedicarboxylic anhydride, fullerene, and fluorinated phthalocyanine Cu
 (Zn, Fe, or Co). The mobility rate of current carrier and the switch current
 ratio of the field-effect transistor manufactured with the organic
semiconductor as active **layer** are $>10^{-3}$ cm² V⁻¹ s⁻¹ and $>10^3$, resp.

IT **92-24-0**, Tetracene
 (organic **semiconductor** of two or more organic substances)
 RN 92-24-0 HCAPLUS
 CN Naphthacene (CA INDEX NAME)



IC ICM H01L051-30
 CC 76-3 (**Electric** Phenomena)

Section cross-reference(s): 78

ST org **semiconductor** field effect transistor phthalocyanine
current carrier; polythiophene tetracene pentacene pyrene fullerene
gold phthalocyanine **semiconductor**

IT Crystallization
Electric current carriers
Field effect transistors
Semiconductor materials
(organic **semiconductor** of two or more organic substances)

IT 132-16-1D, Iron (II) phthalocyanine, fluorinated 574-93-6,
Phthalocyanine 3317-67-7, Phthalocyanine cobalt 13930-88-6,
Vanadyl phthalocyanine 14055-02-8 14075-08-2 14320-04-8, Zinc
phthalocyanine 14320-04-8D, fluorinated 26201-32-1, Titanyl
phthalocyanine
(organic **semiconductor** of two or more organic substances)

IT **92-24-0**, Tetracene 129-00-0, Pyrene, uses 135-48-8,
Pentacene 147-14-8, Copper (II)phthalocyanine 147-14-8D,
fluorinated 7440-25-7, Tantalum, uses 7440-57-5, Gold, uses
25233-34-5, Polythiophene 76895-43-7, 3H,5H-Pyreno[1,10-cd]pyran-3,5-
dione 99685-96-8, Fullerene
(organic **semiconductor** of two or more organic substances)

L44 ANSWER 13 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:905274 HCAPLUS Full-text

DOCUMENT NUMBER: 141:404357

TITLE: Aryl amine polymer, thin **film** transistor
using the aryl amine polymer, and method of
manufacturing the thin **film** transistor

INVENTOR(S): Sagisaka, Toshiya; Sasaki, Masaomi; Torii,
Masafumi; Kawamura, Shinichi; Okada, Takashi;
Nakayama, Yoshinobu; Akiyama, Yoshikazu; Kondoh,
Hitoshi; Tomono, Hidenori; Yamaga, Takumi

PATENT ASSIGNEE(S): Ricoh Company, Ltd., Japan

SOURCE: U.S. Pat. Appl. Publ., 55 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004212042	A1	20041028	US 2004-777095	20040213
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US 7166689	B2	20070123		
JP 2005154709	A	20050616	JP 2004-24878	20040130
			<--	
JP 2005213228	A	20050811	JP 2004-24867	20040130
JP 2005101493	A	20050414	JP 2004-27234	20040203
			<--	
JP 2005240001	A	20050908	JP 2004-174088	20040611
			<--	
US 2007092760	A1	20070426	US 2006-566728	20061205
			<--	
PRIORITY APPLN. INFO.:			JP 2003-35582	A 20030213
			<--	
			JP 2003-185402	A 20030627
			<--	
			JP 2003-307561	A 20030829
			<--	

10/580,552

JP 2003-373723	A	20031031
<--		
JP 2004-24866	A	20040130
JP 2004-24867	A	20040130
JP 2004-24878	A	20040130
JP 2004-27234	A	20040203
US 2004-777095	A3	20040213

ED Entered STN: 29 Oct 2004

AB Polymers are described which comprise a repeat unit represented by $-(\text{Ar}_2-\text{N}(\text{Ar}_1)-\text{Ar}_3-\text{CH}:\text{CH}-\text{Ar}_4-\text{CH}:\text{CH})-$ (Ar_1 = (un)substituted aromatic hydrocarbon group ; Ar_2 and Ar_3 = independently selected divalent aromatic hydrocarbons selected from (un)substituted monocyclic aromatic hydrocarbons, (un)substituted non-condensed polycyclic aromatic hydrocarbons and (un)substituted condensed polycyclic aromatic hydrocarbons; and Ar_4 = a bivalent group of benzene, thiophene, biphenyl, or anthracene, each of which can optionally have a substituent). Organic thin **film** transistors are also described which comprise including a substrate, an **organic semiconductor layer** which contains a polymer as described above and is located overlying the substrate, an electrode pair of a source electrode and a drain electrode; and a third electrode. Methods of manufacturing organic thin-**film** transistors are described which entail applying a solution comprising a solvent and the polymer to the substrate; and drying the applied solution to form an organic **layer** on the substrate.

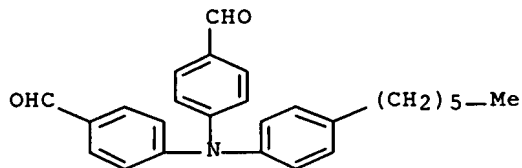
IT **785808-19-7DP**, phenyl- terminated **785808-34-6P**
(aryl amine polymers and thin-**film** transistors using them
and methods of manufacturing the transistors)

RN 785808-19-7 HCAPLUS

CN Phosphonic acid, [9,10-anthracenediylbis(methylene)]bis-, tetraethyl ester, polymer with 4,4'-[(4-hexylphenyl)imino]bis[benzaldehyde] (9CI)
(CA INDEX NAME)

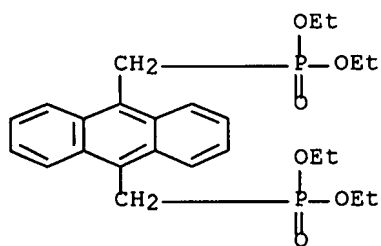
CM 1

CRN 785808-12-0
CMF C26 H27 N O2



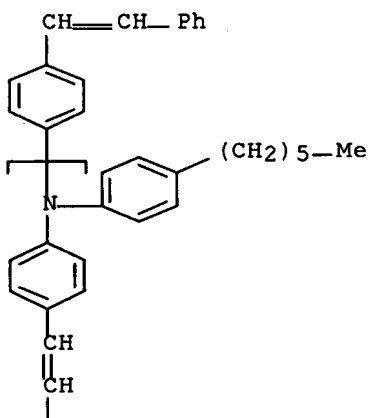
CM 2

CRN 60974-92-7
CMF C24 H32 O6 P2

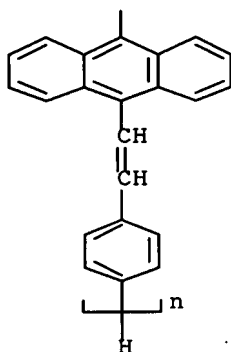


RN 785808-34-6 HCAPLUS
 CN Poly[[[(4-hexylphenyl)imino]-1,4-phenylene-1,2-ethenediyl-9,10-anthracenediyl-1,2-ethenediyl-1,4-phenylene], α -[4-(2-phenylethenyl)phenyl]- ω -hydro- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



IC ICM H01L029-72
ICS C08G083-00
INCL 257552000; X52-553.4
CC 76-3 (**Electric** Phenomena)
Section cross-reference(s): 38
ST aryl amine polymer thin **film** transistor fabrication
IT **Semiconductor** device fabrication
 Semiconductor materials
 (aryl amine polymers and thin-**film** transistors using them
 and methods of manufacturing the transistors)
IT Polyamines
 (aryl amine polymers and thin-**film** transistors using them
 and methods of manufacturing the transistors)
IT Thin **film** transistors
 (organic; aryl amine polymers and thin-**film** transistors
 using them and methods of manufacturing the transistors)
IT , 645396-20-9DP, phenyl- terminated 645396-21-0DP, phenyl-terminated
645396-23-2DP, phenyl- terminated 785808-10-8DP, phenyl- terminated
785808-11-9DP, benzaldehyde-terminated 785808-13-1DP, phenyl-
terminated 785808-15-3DP, phenyl- terminated 785808-16-4DP,
phenyl- terminated 785808-17-5DP, phenyl- terminated
785808-18-6DP, phenyl- terminated **785808-19-7DP**, phenyl-
terminated 785808-20-0DP, phenyl- terminated 785808-22-2DP,
phenyl- terminated 785808-23-3DP, phenyl- terminated
785808-24-4DP, phenyl- terminated 785808-25-5DP, phenyl- terminated
785808-27-7DP, phenyl- terminated 785808-29-9DP, phenyl- terminated
785808-31-3DP, phenyl- terminated 785808-32-4P 785808-33-5P
785808-34-6P 785808-35-7P 785808-36-8P 785828-74-2P
785828-75-3P 785831-97-2P 785833-67-2P 785834-13-1P
785834-16-4P 785834-17-5P 785834-19-7P 785834-25-5P
785834-26-6P 785834-28-8P 785834-29-9P 785834-44-8P
785834-51-7P
 (aryl amine polymers and thin-**film** transistors using them
 and methods of manufacturing the transistors)

REFERENCE COUNT: 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN THE
RE FORMAT

L44 ANSWER 14 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:857503 HCAPLUS Full-text

DOCUMENT NUMBER: 141:359265

TITLE: Processes and donor elements for transferring
thermally sensitive materials to substrates

INVENTOR(S): Fincher, Graciela Blanchet

PATENT ASSIGNEE(S): E.I. Dupont De Nemours and Company, USA

SOURCE: PCT Int. Appl., 25 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

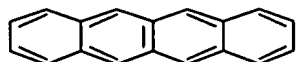
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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WO 2004087434	A1	20041014	WO 2004-US9187	20040325

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W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA,
CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP,

KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,
 MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD,
 SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ,
 VC, VN, YU, ZA, ZM, ZW
 RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM,
 AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE,
 DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT,
 RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW,
 ML, MR, NE, SN, TD, TG
 EP 1606120 A1 20051221 EP 2004-758354 20040325
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 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,
 PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU,
 PL, SK
 CN 1764551 A 20060426 CN 2004-80008332 20040325
 <--
 JP 2006524916 T 20061102 JP 2006-509301 20040325
 <--
 PRIORITY APPLN. INFO.: US 2003-458058P P 20030327
 <--
 WO 2004-US9187 W 20040325
 ED Entered STN: 18 Oct 2004
 AB Methods of forming a patterned **semiconducting**-dielec. material on a substrate
 by thermal processes are disclosed, comprising heating a thermally imageable
 donor element comprising a substrate and a transfer **layer** of **semiconductive**
 material in conjunction with a dielec. The donor is exposed with the pos.
 image of the desired pattern to be formed on the receiver, such that the
 exposed portions of the **layer** of **semiconductive** and dielec. material are
 simultaneously transferred, forming the desired pattern of **semiconductive** and
 dielec. material on the receiver. The **semiconducting** material can be
 patterned to form a thin **film** transistor. The method can also be used to
 pattern a light-emitting polymer or small mol. in conjunction with the charge
 injection **layer** to form the light-emitting display for light-sensitive organic
 electronic devices. Donor elements for use in the process are also disclosed.
 Methods for forming thin **film** transistors and donor elements for use in the
 processes, are also disclosed.
 IT 92-24-0, Tetracene
 (thermally sensitive material; processes and donor elements for
 transferring thermally sensitive materials to substrates)
 RN 92-24-0 HCAPLUS
 CN Naphthacene (CA INDEX NAME)



IC ICM B41M005-38
 ICS B41M005-40; H01L051-56
 CC 76-3 (**Electric** Phenomena)
 Section cross-reference(s): 73
 ST thermally sensitive material transfer; patterned
semiconducting dielec material thermal imaging; polymer LED
 fabrication; TFT fabrication
 IT Dyes
 (IR-absorbing, donor element ejection **layer**; processes

- and donor elements for transferring thermally sensitive materials to substrates)
- IT Fluoropolymers, uses
Silsesquioxanes
(donor element protective **layer**; processes and donor elements for transferring thermally sensitive materials to substrates)
- IT Thin **film** transistors
(method of forming)
- IT Polyesters, uses
(receiver element adhesive **layer**, substrate of donor- and receiver element; processes and donor elements for transferring thermally sensitive materials to substrates)
- IT Polycarbonates, uses
Polyurethanes, uses
(receiver element adhesive **layer**; processes and donor elements for transferring thermally sensitive materials to substrates)
- IT 9002-86-2, Polyvinyl chloride 9002-86-2D, Polyvinyl chloride, chlorinated 9004-70-0, Nitrocellulose 9011-14-7, Polymethyl methacrylate 9011-14-7D, Polymethyl methacrylate, copolymers 88878-49-3 128433-68-1 162411-28-1
(donor element ejection **layer**; processes and donor elements for transferring thermally sensitive materials to substrates)
- IT 7429-90-5, Aluminum, uses 7440-02-0, Nickel, uses 7440-47-3, Chromium, uses
(donor element heating **layer**; processes and donor elements for transferring thermally sensitive materials to substrates)
- IT 9003-47-8, Polyvinylpyridine 59269-51-1, Polyhydroxystyrene
(donor element protective **layer**; processes and donor elements for transferring thermally sensitive materials to substrates)
- IT 9003-54-7, Acrylonitrile Styrene copolymer 24980-41-4, Poly(caprolactone) 25085-46-5 25087-26-7, PolyMethacrylic acid 25248-42-4, Poly(caprolactone)
(receiver element adhesive **layer**; processes and donor elements for transferring thermally sensitive materials to substrates)
- IT 50926-11-9, Indium tin oxide
(receiver element anode **layer**; processes and donor elements for transferring thermally sensitive materials to substrates)
- IT **92-24-0**, Tetracene 95-15-8D, Benzothiophene, dimers 135-48-8, Pentacene 66280-99-7, Polythienylenevinylene 88493-55-4, Sexithiophene
(thermally sensitive material; processes and donor elements for transferring thermally sensitive materials to substrates)
- REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L44 ANSWER 15 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:842951 HCAPLUS Full-text

DOCUMENT NUMBER: 141:359045

TITLE: Organic super lattice thin **film** for **semiconductor** device

INVENTOR(S): Nishino, Fumiaki; Kuwahara, Masahiro; Nishiyama, Shinichi

PATENT ASSIGNEE(S): Mitsui Chemicals Inc., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 25 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004289146	A	20041014	JP 2004-61657	20040305
			<--	
PRIORITY APPLN. INFO.:			JP 2003-60368	A 20030306
			<--	

ED Entered STN: 15 Oct 2004

AB The method is suited for production of super lattice thin **film** having high carrier mobility. The thin **film** consists of ≥ 2 **layers** of 2 kinds of organic thin **films** of 0.5-100 nm in thickness. The basic skeleton of the organic thin **film** mols. is a π conjugated polymer. The precursor monomer of the thin **film** is different from that of the adjacent organic thin **film**.

IT **111641-58-8**, Poly(1,5-diaminoanthraquinone)
 (organic super lattice thin **film** for **semiconductor** device)

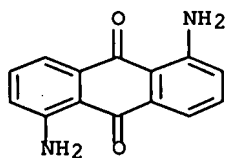
RN 111641-58-8 HCAPLUS

CN 9,10-Anthracenedione, 1,5-diamino-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 129-44-2

CMF C14 H10 N2 O2



IC ICM H01L051-00

ICS C08G061-12; H01L029-786; H01L033-00; H05B033-14

CC 76-2 (**Electric** Phenomena)

Section cross-reference(s): 36

ST org super lattice thin **film semiconductor** device

IT **Films**

Semiconductor devices

(organic super lattice thin **film** for **semiconductor** device)

IT Polymers, uses

(organic super lattice thin **film** for **semiconductor** device)

IT 50926-11-9, ITO

(organic super lattice thin **film** for **semiconductor** device)

IT 15082-28-7, 2-(4-Biphenyl)-5-(4-tert-butylphenyl)-1, 3, 4-oxadiazole
 27176-87-0, n-Dodecyl benzene sulfonic acid 30604-81-0, PolyPyrrole
 50851-57-5, Polystyrenesulfonic acid 84928-92-7D, Poly-(3-methyl

thiophene), perchloric acid doped 104934-51-2, Poly(3-n-octylthiophene) **111641-58-8**, Poly(1,5-diaminoanthraquinone) 126213-51-2

(organic super lattice thin **film** for **semiconductor** device)

L44 ANSWER 16 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:756341 HCAPLUS Full-text

DOCUMENT NUMBER: 141:287033

TITLE: **Semiconductive** polyacene compounds, preparation of polyacene compounds, and fabrication of organic **semiconductor** devices

INVENTOR(S): Narita, Yoshitoku; Yakeyama, Masatoshi; Osada, Kazuto; Natsume, Minoru

PATENT ASSIGNEE(S): Asahi Kasei Corporation, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 24 pp.
CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

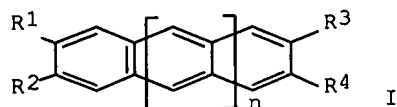
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2004256532	A	20040916	JP 2004-29701	20040205
			<--	
PRIORITY APPLN. INFO.:			JP 2003-28704	A 20030205
			<--	

OTHER SOURCE(S): MARPAT 141:287033

ED Entered STN: 16 Sep 2004

GI

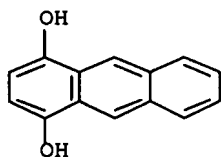


AB The title **semiconductor** materials are crystalline polyacenes (I; R1-4 = H, alkyl, alkenyl, alkynyl, aromatic hydrocarbon group, alkoxyl, ether, acyl, ester, carboxyl, formyl, halo, amino, imino, amide, cyan, silyl, mercapto, sulfide, disulfide, sulfonyl; n = 2-7). The title fabrication of transistors involves vapor deposition of a 2,3,9,10-tetramethylpentacene thin **film** (**film** thickness 80 nm) over patterned Au source/drain electrodes on a Si substrate. The **semiconductor** materials give high electron mobility, have high solvent solubility, and provide excellent electronic characteristics.

IT **7218-35-1**, 1,4-Dihydroxyanthracene
(**semiconductive** polyacene compds. and preparation of polyacene compds. and fabrication of organic **semiconductor** devices)

RN 7218-35-1 HCAPLUS

CN 1,4-Anthracenediol (CA INDEX NAME)



- IC ICM C07C015-20
ICS C07C001-22; C07C050-22; H01L029-786; H01L051-00
- CC 76-2 (**Electric** Phenomena)
Section cross-reference(s): 38
- ST polyacene **semiconductor** prepn org **semiconductor**
device transistor
- IT Electric current-potential relationship
(gate coltage-drain current; **semiconductive** polyacene
compds. and preparation of polyacene compds. and fabrication of organic
semiconductor devices)
- IT Solubility
(high, in solvent; **semiconductive** polyacene compds. and
preparation of polyacene compds. and fabrication of organic
semiconductor devices)
- IT Electron mobility
(high; **semiconductive** polyacene compds. and preparation of
polyacene compds. and fabrication of organic **semiconductor**
devices)
- IT Transistors
(organic **semiconductor**; **semiconductive** polyacene
compds. and preparation of polyacene compds. and fabrication of organic
semiconductor devices)
- IT Polyacenes
(organic **semiconductor**; **semiconductive** polyacene
compds. and preparation of polyacene compds. and fabrication of organic
semiconductor devices)
- IT **Semiconductor** materials
(polyacene film; **semiconductive** polyacene
compds. and preparation of polyacene compds. and fabrication of organic
semiconductor devices)
- IT Electric conductivity
Semiconductor device fabrication
Semiconductor devices
Vapor deposition process
(**semiconductive** polyacene compds. and preparation of polyacene
compds. and fabrication of organic **semiconductor** devices)
- IT 499138-96-4P, 2,3,9,10-Tetramethylpentacene
(crystalline **semiconductor** thin film deposition;
semiconductive polyacene compds. and preparation of polyacene
compds. and fabrication of organic **semiconductor** devices)
- IT 758706-01-3P
(**semiconductive** polyacene compds. and preparation of polyacene
compds. and fabrication of organic **semiconductor** devices)
- IT 607387-98-4P 758706-00-2P
(**semiconductive** polyacene compds. and preparation of polyacene
compds. and fabrication of organic **semiconductor** devices)
- IT 637-88-7, Cyclohexane-1,4-dione 7218-35-1,
1,4-Dihydroxynanthracene 25445-42-5
(**semiconductive** polyacene compds. and preparation of polyacene
compds. and fabrication of organic **semiconductor** devices)
- IT 7440-21-3, Silicon, properties

(**semiconductor** substrate; **semiconductive** polyacene compds. and preparation of polyacene compds. and fabrication of organic **semiconductor** devices)

IT 7440-57-5, Gold, properties
(source/drain electrodes; **semiconductive** polyacene compds. and preparation of polyacene compds. and fabrication of organic **semiconductor** devices)

L44 ANSWER 17 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:701753 HCAPLUS Full-text

DOCUMENT NUMBER: 141:216874

TITLE: Manufacture of **semiconductor** devices with dual damascene structure with controlled-dimension resist pattern and conductive polymer in via hole

INVENTOR(S): Saito, Takayuki

PATENT ASSIGNEE(S): Renesas Technology Corp., Japan

SOURCE: U.S. Pat. Appl. Publ., 10 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 2004166669	A1	20040826	US 2003-683392	20031014
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US 6787454	B1	20040907		
JP 2004253659	A	20040909	JP 2003-43303	20030220
			<--	
TW 231525	B	20050421	TW 2003-92131773	20031113
			<--	
DE 102004001672	A1	20040909	DE 2004-102004001672	20040112
			<--	
CN 1523657	A	20040825	CN 2004-10002759	20040114
			<--	
KR 2004075708	A	20040830	KR 2004-2543	20040114
			<--	
PRIORITY APPLN. INFO.:			JP 2003-43303	A 20030220
			<--	

ED Entered STN: 27 Aug 2004

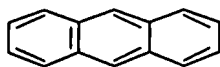
AB A via hole is formed so as to reach a Cu interconnection through an interlayer insulating **film** that covers the Cu interconnection. A conductive polymeric member is buried in the via hole by electrolysis. A resist pattern is formed on the interlayer insulating **film** by photolithog., and a trench is formed so as to be connected to the via hole by etching by using the resist pattern as a mask. The resist pattern and the conductive polymeric member are then removed.

IT 120-12-7D, Anthracene, derivs.

(in conductive polymer; manufacture of **semiconductor** devices with dual damascene structure with controlled-dimension resist pattern and conductive polymer in via hole)

RN 120-12-7 HCAPLUS

CN Anthracene (CA INDEX NAME)



IC ICM H01L021-4763
 INCL 438638000
 CC 76-3 (**Electric** Phenomena)
 Section cross-reference(s): 38, 56
 ST resist pattern conductive polymer via hole dual damascene
semiconductor
 IT Conducting polymers
 (in via hole; manufacture of **semiconductor** devices with dual
 damascene structure with controlled-dimension resist pattern and
 conductive polymer in via hole)
 IT Antireflective **films**
 Dielectric **films**
 Electrolysis
 Etching
 Interconnections, electric
 Photolithography
 Photoresists
Semiconductor device fabrication
 (manufacture of **semiconductor** devices with dual damascene
 structure with controlled-dimension resist pattern and conductive
 polymer in via hole)
 IT Etching masks
 (photoresists; manufacture of **semiconductor** devices with dual
 damascene structure with controlled-dimension resist pattern and
 conductive polymer in via hole)
 IT Contact holes
 (via holes; manufacture of **semiconductor** devices with dual
 damascene structure with controlled-dimension resist pattern and
 conductive polymer in via hole)
 IT 25233-30-1, Aniline polymer 25233-34-5, Thiophene polymer
 30604-81-0, Pyrrole polymer
 (conductive polymers; manufacture of **semiconductor** devices
 with dual damascene structure with controlled-dimension resist
 pattern and conductive polymer in via hole)
 IT **120-12-7D**, Anthracene, derivs.
 (in conductive polymer; manufacture of **semiconductor** devices
 with dual damascene structure with controlled-dimension resist
 pattern and conductive polymer in via hole)
 IT 7440-50-8, Copper, uses
 (interconnections; manufacture of **semiconductor** devices with
 dual damascene structure with controlled-dimension resist pattern
 and conductive polymer in via hole)
 REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR
 THIS RECORD. ALL CITATIONS AVAILABLE IN THE
 RE FORMAT

L44 ANSWER 18 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2004:533195 HCAPLUS Full-text
 DOCUMENT NUMBER: 141:79294
 TITLE: **Semiconductor** compositions and
 electrophotographic apparatus parts using them
 with excellent heat, moisture, and voltage
 resistance

INVENTOR(S): Yoshikawa, Hitoshi; Iinuma, Sumio
 PATENT ASSIGNEE(S): Tokai Rubber Industries, Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 35 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004184513	A	20040702	JP 2002-348351	20021129
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PRIORITY APPLN. INFO.:			JP 2002-348351	20021129
			<--	

OTHER SOURCE(S): MARPAT 141:79294

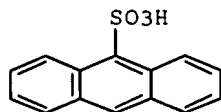
ED Entered STN: 02 Jul 2004

AB The compns., development rolls for electrophotog., contain elec. conductive polymers (A) having surfactant structures (sulfonic acid group-containing naphthalene or anthracene structures, preferably) and showing solubility to PhMe or Me Et ketone $\geq 20\%$ and solubility to water $< 3\%$ and binder polymers (B), thus improving compatibility of them.

IT 22582-76-9DP, 9-Anthracenesulfonic acid, polymers with aniline (conductive polymer; **semiconductor** compns. containing conductive surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)

RN 22582-76-9 HCAPLUS

CN 9-Anthracenesulfonic acid (8CI, 9CI) (CA INDEX NAME)



IC ICM G03G015-08.

ICS C08L101-00; F16C013-00; G03G015-02; G03G015-16; H01B001-20

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 38, 76

ST elec conductor polymer soly moisture resistance; sulfonic surfactant polyaniline polyester blend compatibility; electrophotog development roll **semiconductor** heat resistance

IT Acrylic rubber

(Denka ER 7300T, binder; **semiconductor** compns. containing conductive surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)

IT Urethane rubber, uses

(Elastollan 1040, binder; **semiconductor** compns. containing conductive surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)

IT Butadiene rubber, uses

(JSR-BR 1220NM, binder; **semiconductor** compns. containing conductive surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)

IT Fluoropolymers, uses

- (acrylic, binder; **semiconductor** compns. containing conductive surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)
- IT Epichlorohydrin rubber
Synthetic rubber, uses
(allyl glycidyl ether-epichlorohydrin-ethylene oxide, Epichlormer CG, binder; **semiconductor** compns. containing conductive surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)
- IT Epoxy resins, uses
Polyureas
Thermoplastic rubber
(binder; **semiconductor** compns. containing conductive surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)
- IT Surfactants
(conductive polymers; **semiconductor** compns. containing conductive surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)
- IT Films
(elec. **conductive**; **semiconductor** compns. containing conductive surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)
- IT EPDM rubber
(ethylene-ethylidenenorbornene-propene, Esprene 505, binder; **semiconductor** compns. containing conductive surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)
- IT Electric **conductors**
(**films**; **semiconductor** compns. containing conductive surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)
- IT Acrylic polymers, uses
(fluorine-containing, binder; **semiconductor** compns. containing conductive surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)
- IT Nitrile rubber, uses
(hydrogenated, Zetpol 0020, binder; **semiconductor** compns. containing conductive surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)
- IT Polyimides, uses
(polyamide-, binder; **semiconductor** compns. containing conductive surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)
- IT Polyamides, uses
(polyimide-, binder; **semiconductor** compns. containing conductive surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)
- IT Conducting polymers
(polypyrroles, sulfonic group-containing; **semiconductor** compns. containing conductive surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)
- IT Conducting polymers
(polythiophenes, sulfonic group-containing; **semiconductor** compns. containing conductive surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)
- IT Electrophotographic apparatus
(rollers; **semiconductor** compns. containing conductive surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)

- IT Conducting polymers
Semiconductor materials
 (semiconductor compns. containing conductive surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)
- IT Polymer blends
 (semiconductor compns. containing conductive surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)
- IT Polyanilines
 (sulfonic group-containing, conductive polymer; semiconductor compns. containing conductive surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)
- IT 220669-44-3P
 (binder; semiconductor compns. containing conductive surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)
- IT 9011-14-7, LG 6A 434322-68-6, Defensa TR 230K 577796-28-2, Vylomax HR 16NN
 (binder; semiconductor compns. containing conductive surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)
- IT 9003-17-2
 (butadiene rubber, JSR-BR 1220NM, binder; semiconductor compns. containing conductive surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)
- IT 62-53-3DP, Aniline, polymers with sulfonic acid group-containing surfactant 109-97-7DP, Pyrrole, polymers with dinonylnaphthalenesulfonic acid 110-02-1DP, Thiophene, polymers with dinonylnaphthalenesulfonic acid **22582-76-9DP**, 9-Anthracenesulfonic acid, polymers with aniline 25322-17-2DP, Dinonylnaphthalenesulfonic acid, polymers with aniline 189376-87-2DP, 2,2'-Dinaphthylmethane-6,6'-disulfonic acid monosodium salt, polymers with aniline 712272-86-1DP, polymers with aniline (conductive polymer; semiconductor compns. containing conductive surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)
- IT 175834-23-8, Burnock DB 980K
 (crosslinking agent; semiconductor compns. containing conductive surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)
- IT 9003-18-3
 (nitrile rubber, hydrogenated, Zetpol 0020, binder; semiconductor compns. containing conductive surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)
- IT 11109-50-5, SUS 304
 (roll core; semiconductor compns. containing conductive surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)

L44 ANSWER 19 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:509038 HCAPLUS Full-text

DOCUMENT NUMBER: 141:79098

TITLE: Organic electroluminescent device and encapsulation method

INVENTOR(S): McCormick, Fred B.; Ottman, Jon E.; Padiyath, Raghunath

PATENT ASSIGNEE(S): 3M Innovative Properties Company, USA

SOURCE: U.S. Pat. Appl. Publ., 19 pp.

DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004119403	A1	20040624	US 2002-324585	20021219
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US 6975067	B2	20051213		
WO 2004061992	A1	20040722	WO 2003-US32378	20031010
			<--	
W:			AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW	
RW:			GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG	
AU 2003277364	A1	20040729	AU 2003-277364	20031010
			<--	
EP 1579517	A1	20050928	EP 2003-814603	20031010
			<--	
R:			AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK	
CN 1726607	A	20060125	CN 2003-80106425	20031010
			<--	
JP 2006511916	T	20060406	JP 2004-564784	20031010
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US 2005247400	A1	20051110	US 2005-179401	20050712
			<--	
US 7156942	B2	20070102		
PRIORITY APPLN. INFO.:			US 2002-324585	A 20021219
			<--	
			WO 2003-US32378	W 20031010
			<--	

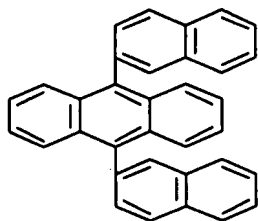
ED Entered STN: 24 Jun 2004

AB Organic electroluminescent devices are described which comprise a first electrode; a second electrode; a light-emitting structure disposed between the first and second electrodes; a **conductive layer** disposed over at least a portion of the second electrode; and a nonconductive material defining an opening through which the **conductive layer** is in elec. communication with the second electrode. Methods of preparing an organic electroluminescent device are discussed which entail forming an electroluminescent structure comprising a first electrode, a second electrode, and a light-emitting structure, where the light-emitting structure is disposed between the first and second electrodes; forming an opening in a nonconductive material; aligning the opening in the nonconductive material with a surface of the second electrode; and establishing an elec. communication between a **conductive layer** and the **second** electrode through the opening in the nonconductive material.

IT 122648-99-1, 9,10-Bis(2-naphthyl)anthracene
 (electron-transporting **layer**; organic electroluminescent device and encapsulation method)

RN 122648-99-1 HCAPLUS

CN Anthracene, 9,10-di-2-naphthalenyl- (CA INDEX NAME)



IC ICM H01J001-62
ICS H01J063-04
INCL 313506000; 313512000
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 38, 76
IT Electroluminescent devices
Electronic packages
Electronic packaging process
Semiconductor device fabrication
(organic electroluminescent device and encapsulation method)
IT 155090-83-8, Baytron P 4083
(buffer **layer**; organic electroluminescent device and encapsulation method)
IT 2085-33-8, Aluminum tris(8-hydroxyquinolinato) **122648-99-1**,
9,10-Bis(2-naphthyl)anthracene
(electron-transporting **layer**; organic electroluminescent device and encapsulation method)
IT 123847-85-8, NPD
(hole-transporting **layer**; organic electroluminescent device and encapsulation method)
IT 26009-24-5, Covion PDY132
(light-emitting **layer**; organic electroluminescent device and encapsulation method)
REFERENCE COUNT: 73 THERE ARE 73 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L44 ANSWER 20 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:412262 HCAPLUS Full-text
DOCUMENT NUMBER: 140:415077
TITLE: Interconnection substrate having amorphous fluoropolymer **layer**, display device, color filter therefor, and methods of forming the same
INVENTOR(S): Sasaki, Hiroshi; Tomioka, Yasushi
PATENT ASSIGNEE(S): Hitachi Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 51 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004146478	A	20040520	JP 2002-307784	20021023
			<--	
PRIORITY APPLN. INFO.:			JP 2002-307784	20021023
			<--	

ED Entered STN: 21 May 2004

AB The interconnection substrate comprises an metal interconnection formed on a substrate, an amorphous fluoropolymer **layer** on a non-interconnection area on the substrate, and a light-absorbing **layer** formed beneath the amorphous fluoropolymer **layer** . Light with ≥ 250 nm is directed to the substrate to form a pattern of hydrophilicity and hydrophobicity, and a metal interconnection, an electrode, a **semiconductor layer** , insulating **layer**, etc. are formed on the hydrophilic surface.

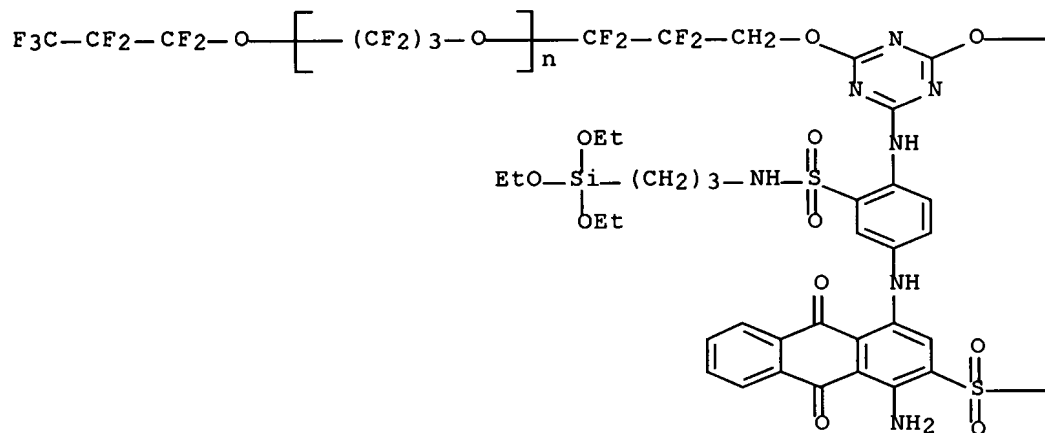
IT **690244-09-8P 690244-11-2P 690244-14-5P**
690244-15-6P 690244-17-8P 690268-81-6P
690268-85-0P

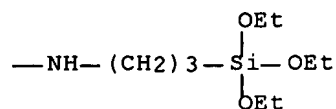
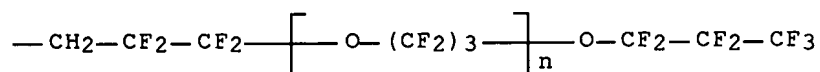
(preparation of fluoropolymer compound used for manufacture of display device interconnection)

RN 690244-09-8 HCAPLUS

CN Poly[oxy(1,1,2,2,3,3-hexafluoro-1,3-propanediyl)],
 α, α' -[[6-[[4-[[4-amino-9,10-dihydro-9,10-dioxo-3-[[[3-(triethoxysilyl)propyl]amino]sulfonyl]-1-anthracenyl]amino]-2-[[[3-(triethoxysilyl)propyl]amino]sulfonyl]phenyl]amino]-1,3,5-triazine-2,4-diyl]bis[oxy(1,1,2,2-tetrafluoro-3,1-propanediyl)]]bis[ω -(heptafluoropropoxy)- (9CI) (CA INDEX NAME)

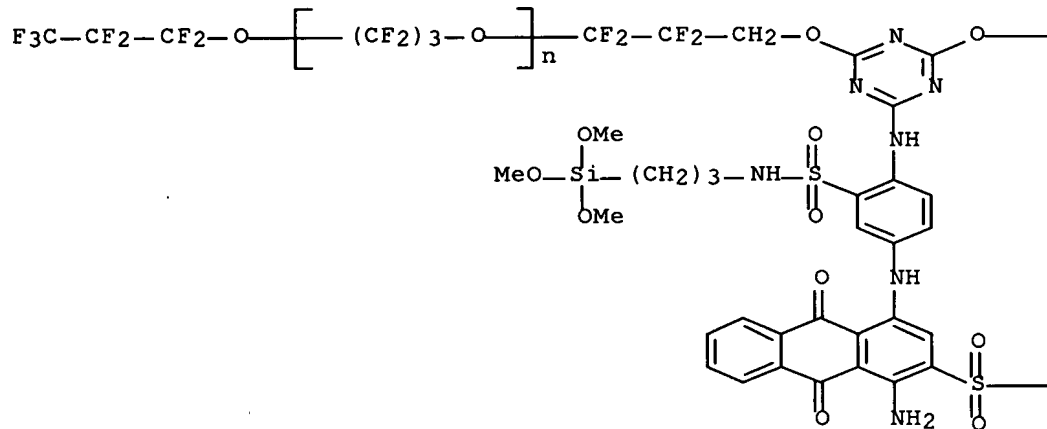
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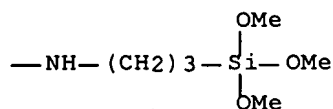
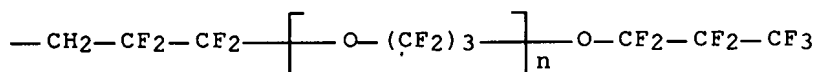




RN 690244-11-2 HCAPLUS

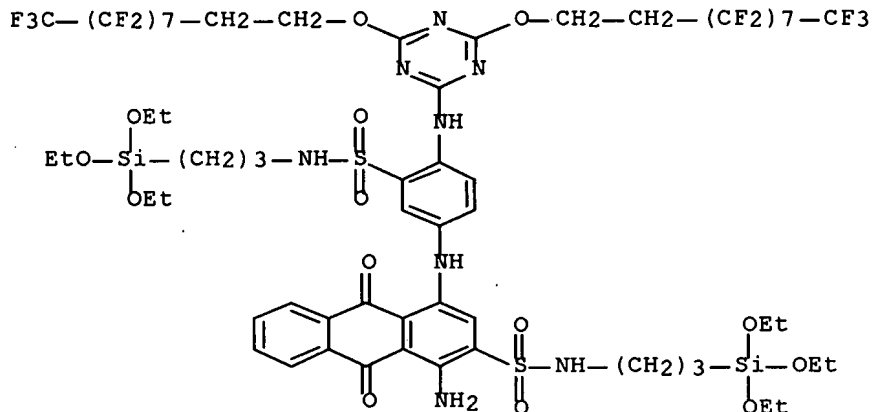
CN Poly[oxy(1,1,2,2,3,3-hexafluoro-1,3-propanediyl)],
 α,α' -[[6-[[4-[[4-amino-9,10-dihydro-9,10-dioxo-3-[[[3-(trimethoxysilyl)propyl]amino]sulfonyl]-1-anthracenyl]amino]-2-[[[3-(trimethoxysilyl)propyl]amino]sulfonyl]phenyl]amino]-1,3,5-triazine-2,4-diyl]bis[oxy(1,1,2,2-tetrafluoro-3,1-propanediyl)]]bis[ω -(heptafluoropropoxy)-(9CI) (CA INDEX NAME)





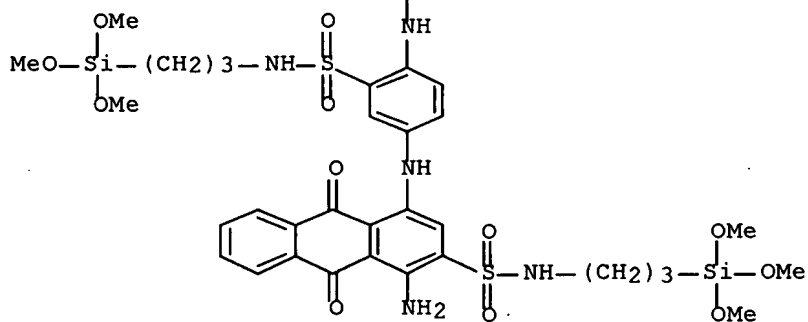
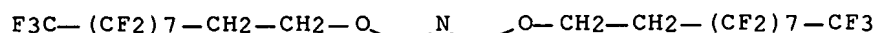
RN 690244-14-5 HCAPLUS

CN 2-Anthracenesulfonamide, 1-amino-4-[[4-[[4,6-bis[(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptafluorodecyl)oxy]-1,3,5-triazin-2-yl]amino]-3-[[[3-(triethoxysilyl)propyl]amino]sulfonyl]phenyl]amino]-9,10-dihydro-9,10-dioxo-N-[3-(triethoxysilyl)propyl]-(9CI) (CA INDEX NAME)



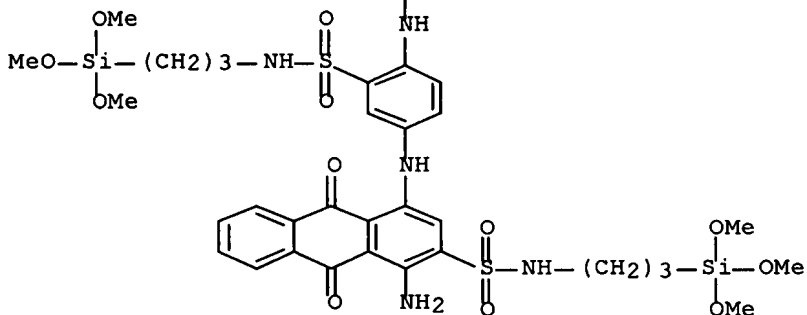
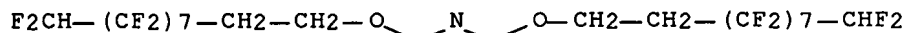
RN 690244-15-6 HCAPLUS

CN 2-Anthracenesulfonamide, 1-amino-4-[[4-[[4,6-bis[(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptafluorodecyl)oxy]-1,3,5-triazin-2-yl]amino]-3-[[[3-(trimethoxysilyl)propyl]amino]sulfonyl]phenyl]amino]-9,10-dihydro-9,10-dioxo-N-[3-(trimethoxysilyl)propyl]-(9CI) (CA INDEX NAME)



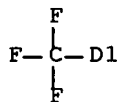
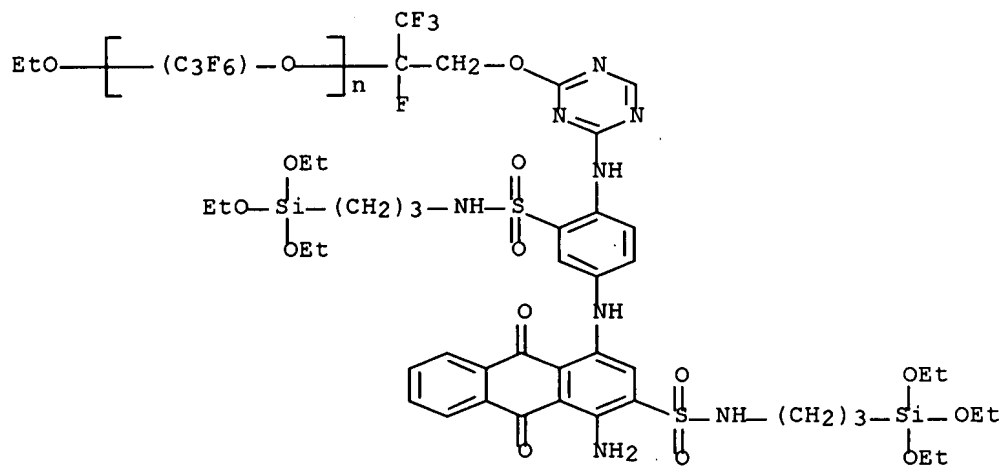
RN 690244-17-8 HCAPLUS

CN 2-Anthracenesulfonamide, 1-amino-4-[[4-[[4,6-bis[(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10-hexadecafluorodecyl)oxy]-1,3,5-triazin-2-yl]amino]-3-[[[3-(trimethoxysilyl)propyl]amino]sulfonyl]phenyl]amino]-9,10-dihydro-9,10-dioxo-N-[3-(trimethoxysilyl)propyl]- (9CI)
(CA INDEX NAME)



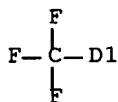
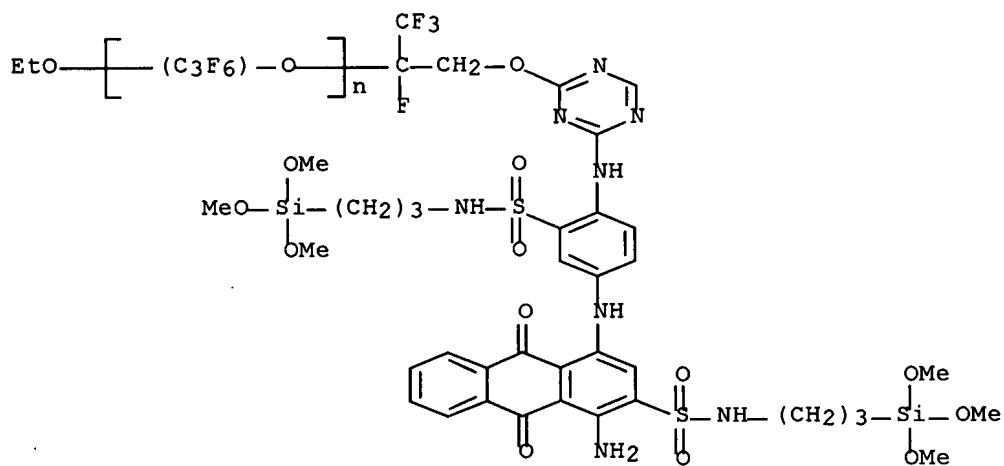
RN 690268-81-6 HCAPLUS

CN Poly[oxy(trifluoro(trifluoromethyl)-1,2-ethanediyl)],
α-[1-[[[4-[[4-[[4-amino-9,10-dihydro-9,10-dioxo-3-[[[3-(triethoxysilyl)propyl]amino]sulfonyl]-1-anthracenyl]amino]-2-[[[3-(triethoxysilyl)propyl]amino]sulfonyl]phenyl]amino]-1,3,5-triazin-2-yl]oxy]methyl]-1,2,2,2-tetrafluoroethyl]-ω-[tetrafluoro(trifluoromethyl)ethoxy]- (9CI) (CA INDEX NAME)



4 (D1-F)

RN 690268-85-0 HCAPLUS
 CN Poly[oxy[trifluoro(trifluoromethyl)-1,2-ethanediyl]],
 α-[1-[[[4-[[4-[[4-amino-9,10-dihydro-9,10-dioxo-3-[[[3-(trimethoxysilyl)propyl]amino]sulfonyl]-1-anthracenyl]amino]-2-[[[3-(trimethoxysilyl)propyl]amino]sulfonyl]phenyl]amino]-1,3,5-triazin-2-yl]oxy]methyl]-1,2,2,2-tetrafluoroethyl]-ω-[tetrafluoro(trifluoromethyl)ethoxy]- (9CI) (CA INDEX NAME)



4 (D1-F)

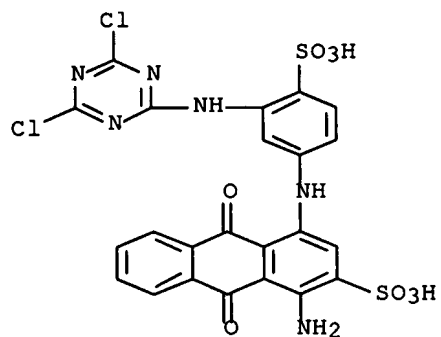
IT 13324-20-4, Mikacion brilliant blue RS

(preparation of fluoropolymer compound used for manufacture of display device

interconnection)

RN 13324-20-4 HCAPLUS

CN 2-Anthracenesulfonic acid, 1-amino-4-[[3-[(4,6-dichloro-1,3,5-triazin-2-yl)amino]-4-sulfophenyl]amino]-9,10-dihydro-9,10-dioxo- (CA INDEX NAME)



IC ICM H05K003-10
ICS G02B005-20; G09F009-00; G09F009-30; H01L021-027; H05B033-10;
H05B033-14; H05B033-22; H05K001-02

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other
Reprographic Processes)
Section cross-reference(s): 35, 38, 76

IT Polysiloxanes, uses
(fluorine-containing; interconnection substrate having fluoropolymer
compound **layer** for display device)

IT Hydrophilicity
Interconnections, electric
Laser radiation
Optical filters
Optical imaging devices
(interconnection substrate having fluoropolymer compound
layer for display device)

IT Fluoropolymers, uses
(interconnection substrate having fluoropolymer compound
layer for display device)

IT Fluoropolymers, uses
(polysiloxane-; interconnection substrate having fluoropolymer
compound **layer** for display device)

IT 51851-37-7P 83048-65-1P 85857-16-5P 101947-16-4P 134061-13-5P
197857-50-4P 269743-55-7P 527745-02-4P 527745-03-5P
527745-04-6P 528844-37-3P **690244-09-8P** 690244-10-1P
690244-11-2P 690244-12-3DP, Termination for
perfluoroethylene glycol and perfluoromethylene copolymer
690244-13-4DP, Termination for perfluoroethylene glycol and
perfluoromethylene copolymer **690244-14-5P**
690244-15-6P 690244-16-7P **690244-17-8P**
690244-18-9P 690268-75-8P 690268-79-2P **690268-81-6P**
690268-83-8P **690268-85-0P** 690268-87-2P
(preparation of fluoropolymer compound used for manufacture of display
device
interconnection)

IT 678-39-7, 1H,1H,2H,2H-Perfluorodecanol 919-30-2, Sila ace S330
6539-67-9, Procion yellow HA **13324-20-4**, Mikacion brilliant
blue RS 13822-56-5, Sila ace S360 90317-74-1, Krytox 157FS-L
99752-24-6, Fomblin Z-DOL4000 146349-51-1, Demnum SA
(preparation of fluoropolymer compound used for manufacture of display
device
interconnection)

L44 ANSWER 21 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:250603 HCAPLUS Full-text
DOCUMENT NUMBER: 140:279723
TITLE: Organic amine field-effect transistors
INVENTOR(S): Tsurutani, Yasuyuki; Takeuchi, Masako; Ichinosawa,
Akiko; Aramaki, Shinji
PATENT ASSIGNEE(S): Mitsubishi Chemical Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 20 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2004095850

A

20040325

JP 2002-254876

20020830

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PRIORITY APPLN. INFO.:

JP 2002-254876

20020830

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ED Entered STN: 26 Mar 2004

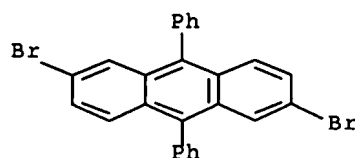
AB The **organic semiconductor layers** provided in the title FETs comprise aromatic amines and condensed heterocyclic amines $X_1X_2N \bullet A \bullet NX_3X_4$ [$A =$ (substd.)alkylene, (substd.)arylene, (substd.)heterocyclic divalent group; $X_1-4 =$ (amino-substd.)aryl, (amino-substd.)heterocyclyl; ≥ 1 of A and/or X_1-4 contain aromatic and/or condensed heterocyclic rings]. The **organic semiconductor layers** have high electron mobility, chemical stability in air, and easy manufacturable by coating process.

IT 528609-98-5

(aromatic diamine **semiconductive** field-effect transistors)

RN 528609-98-5 HCAPLUS

CN Anthracene, 2,6-dibromo-9,10-diphenyl- (9CI) (CA INDEX NAME)

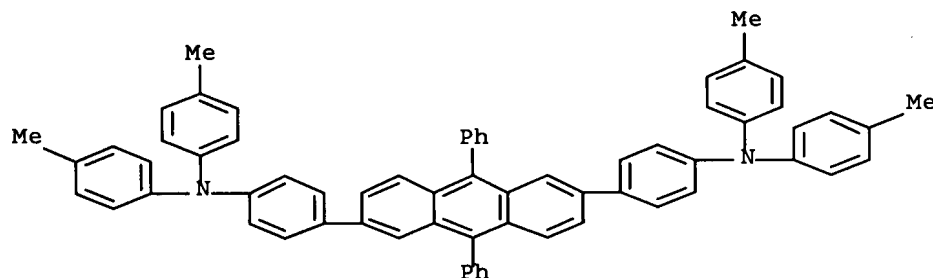


IT 528609-95-2P 674819-51-3P

(semiconductor material; aromatic diamine **semiconductive** field-effect transistors)

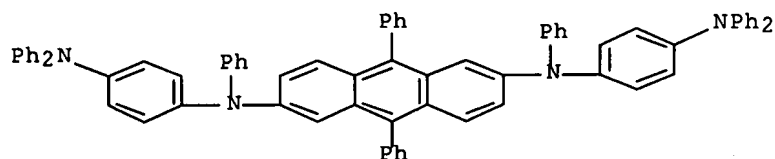
RN 528609-95-2 HCAPLUS

CN Benzenamine, 4,4'-(9,10-diphenyl-2,6-anthracenediyl)bis[N,N-bis(4-methylphenyl)- (9CI) (CA INDEX NAME)



RN 674819-51-3 HCAPLUS

CN 2,6-Anthracenediamine, N,N'-bis[4-(diphenylamino)phenyl]-N,N',9,10-tetraphenyl- (9CI) (CA INDEX NAME)



IC ICM H01L051-00
 ICS C07C211-54; G02F001-1368; H01L029-786; H01L029-80
 CC 76-3 (**Electric** Phenomena)
 Section cross-reference(s): 25, 27, 28
 ST amine diamine arom heterocyclic org **semiconductor** stability
 FET HEMT
 IT Amines, properties
 (aromatic, diamine; aromatic diamine **semiconductive**
 field-effect transistors)
 IT Amines, properties
 (heterocyclic, diamine; aromatic diamine **semiconductive**
 field-effect transistors)
 IT Electron mobility
 (high; aromatic diamine **semiconductive** field-effect
 transistors)
 IT **Semiconductor** materials
 (organic diamines; aromatic diamine **semiconductive** field-effect
 transistors)
 IT Field effect transistors
 High-electron-mobility transistors
 (organic; aromatic diamine **semiconductive** field-effect
 transistors)
 IT Coating materials
 (**semiconductive** organic amines; aromatic diamine
semiconductive field-effect transistors)
 IT Electric current-potential relationship
 (source-drain, on gate voltage; aromatic diamine
semiconductive field-effect transistors)
 IT 19606-98-5 **528609-98-5**
 (aromatic diamine **semiconductive** field-effect transistors)
 IT 182507-83-1P **528609-95-2P 674819-51-3P**
 674819-53-5P 674819-55-7P 674819-57-9P
 (**semiconductor** material; aromatic diamine
semiconductive field-effect transistors)

L44 ANSWER 22 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:18181 HCAPLUS Full-text

DOCUMENT NUMBER: 140:69084

TITLE: Vertical organic static induction transistor
 suitable for driving element for organic
 electroluminescent display

INVENTOR(S): Iechi, Hiroyuki; Kudo, Kazuhiro

PATENT ASSIGNEE(S): Ricoh Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 18 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2004006476	A	20040108	JP 2002-159138	20020531
			<--	
US 2004004215	A1	20040108	US 2003-441792	20030516
			<--	
US 7002176	B2	20060221		
PRIORITY APPLN. INFO.:			JP 2002-159138	A 20020531
			<--	
			JP 2002-286815	A 20020930
			<--	

ED Entered STN: 09 Jan 2004

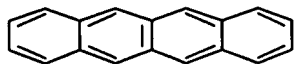
AB The transistor comprises a source electrode, a first **organic semiconductor layer**, a comb- or mesh-like gate electrode, a **second organic semiconductor layer**, and a drain electrode, wherein the first- and **second semiconductor layers** are made of different substances so as to form a potential barrier at the interface. The transistor achieves high operation speed and high withstand voltage.

IT 92-24-0, Tetracene 120-12-7, Anthracene, uses
258-31-1, Hexacene

(**semiconductor**; vertical organic static induction transistor
suitable for driving organic electroluminescent display)

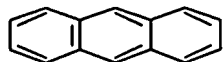
RN 92-24-0 HCAPLUS

CN Naphthacene (CA INDEX NAME)



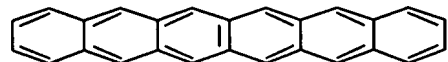
RN 120-12-7 HCAPLUS

CN Anthracene (CA INDEX NAME)



RN 258-31-1 HCAPLUS

CN Hexacene (CA INDEX NAME)



IC ICM H01L029-80

ICS H01L021-28; H01L029-41; H01L029-417; H01L029-423; H01L051-00;
H01L029-58; H01L029-50; H01L029-44; H01L029-28

CC 76-3 (**Electric** Phenomena)

Section cross-reference(s): 73

ST vertical static induction transistor org **semiconductor**
potential barrier

IT **Semiconductor** materials
(organic; vertical organic static induction transistor suitable for
driving organic electroluminescent display)

IT Hydrazones
(**semiconductor**; vertical organic static induction transistor
suitable for driving organic electroluminescent display)

IT 91-20-3, Naphthalene, uses **92-24-0**, Tetracene 101-81-5,
Diphenylmethane **120-12-7**, Anthracene, uses 135-48-8,
Pentacene 147-14-8, Copper phthalocyanine **258-31-1**,
Hexacene 519-73-3, Triphenylmethane 588-59-0, Stilbene 603-34-9,
Triphenylamine 2085-33-8, Alq3 25067-59-8, Poly(N-vinylcarbazole)
25067-59-8D, Poly(N-vinylcarbazole), halide 26589-93-5,
Formaldehyde-pyrene polymer 36118-45-3, Pyrazoline 72038-22-3,
N-Ethylcarbazole-formaldehyde copolymer 123847-85-8, α -NPD
(**semiconductor**; vertical organic static induction transistor
suitable for driving organic electroluminescent display)

L44 ANSWER 23 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:3198 HCAPLUS Full-text

DOCUMENT NUMBER: 140:69020

TITLE: Organic **semiconductor** element,
production method therefor, and organic
semiconductor device

INVENTOR(S): Unno, Akira

PATENT ASSIGNEE(S): Canon Kabushiki Kaisha, Japan

SOURCE: PCT Int. Appl., 86 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004001855	A1	20031231	WO 2003-JP7792	20030619
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W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
JP 2004023021	A	20040122	JP 2002-179468	20020620
<--				
AU 2003243002	A1	20040106	AU 2003-243002	20030619
<--				
EP 1532688	A1	20050525	EP 2003-760907	20030619
<--				
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
CN 1669154	A	20050914	CN 2003-817137	20030619
<--				
US 2005247928	A1	20051110	US 2004-517529	20041213

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US 7202495
PRIORITY APPLN. INFO.:

B2 20070410

JP 2002-179468

A 20020620

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WO 2003-JP7792

W 20030619

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ED Entered STN: 02 Jan 2004

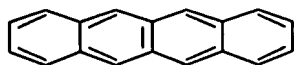
AB The present invention relates to an organic **semiconductor** element, the production method therefor, an active matrix type display device that utilizes the organic **semiconductor** element, and an organic **semiconductor** device that utilizes the organic **semiconductor** as an IC-card electronic tag. An organic **semiconductor** element is provided which has the controlled crystalline state of a vapor-deposited pentacene **layer** and a high mobility with low voltage driving. The organic **semiconductor** element is formed by providing a gate electrode on the surface of a substrate, providing thereon a gate insulating **layer**, providing on the surface of the gate insulating **layer** an island-shaped protrusion **layer** having dispersed and island-shaped protrusions with a low surface energy, providing on the island-shaped protrusion **layer** a source electrode and a drain electrode with a distance between the electrodes, providing thereon an **organic semiconductor layer** in contact with the island-shaped protrusion **layer** and both electrodes, and further providing a protective film on the **organic semiconductor layer**.

IT 92-24-0D, Tetracene, derivs.

(organic **semiconductor** element, production method therefor, and organic **semiconductor** device)

RN 92-24-0 HCAPLUS

CN Naphthacene (CA INDEX NAME)



IC ICM H01L029-786

ICS H01L051-00

CC 76-3 (**Electric** Phenomena)

Section cross-reference(s): 74

ST org **semiconductor** device fabrication

IT Optical imaging devices

(active matrix; organic **semiconductor** element, production method therefor, and organic **semiconductor** device)

IT Identification cards

(electronic; organic **semiconductor** element, production method therefor, and organic **semiconductor** device)

IT Silanes

(fluoroalkyl; organic **semiconductor** element, production method therefor, and organic **semiconductor** device)

IT Dielectric films

Gate contacts

Integrated circuits

Liquid crystal displays

Semiconductor device fabrication

Thin film transistors

(organic **semiconductor** element, production method therefor, and organic **semiconductor** device)

IT Fluoropolymers, uses

(organic **semiconductor** element, production method therefor, and

organic **semiconductor** device)

IT **Semiconductor** devices
(organic; organic **semiconductor** element, production method therefor, and organic **semiconductor** device)

IT Coating process
(spin; organic **semiconductor** element, production method therefor, and organic **semiconductor** device)

IT Coating process
(spray; organic **semiconductor** element, production method therefor, and organic **semiconductor** device)

IT **92-24-0D**, Tetracene, derivs. 135-48-8D, Pentacene, derivs.
(organic **semiconductor** element, production method therefor, and organic **semiconductor** device)

REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L44 ANSWER 24 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2003:989837 HCAPLUS Full-text

DOCUMENT NUMBER: 140:33422

TITLE: Integrated-optical microsystem based on organic **semiconductors**

INVENTOR(S): Seitz, Peter

PATENT ASSIGNEE(S): Csem Centre Suisse D'electronique Et De Microtechnique SA, Switz.

SOURCE: U.S. Pat. Appl. Publ., 16 pp.
CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2003230768	A1	20031218	US 2003-462439	20030616
			<--	
US 7038235	B2	20060502		
EP 1376697	A1	20040102	EP 2002-405494	20020617
			<--	

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,
PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR

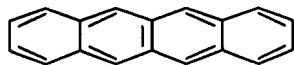
PRIORITY APPLN. INFO.: EP 2002-405494 A 20020617
<--

ED Entered STN: 19 Dec 2003

AB An integrated-optical microsystem is described comprising a substrate and a plurality of components arranged on the substrate, at least a first of the components comprising a **layer** of organic **semiconductor** material, characterized in that the first component and a second, different component are monolithically integrated on the substrate. An active-pixel light-emitting diode display comprising a light-emitting diode structure and a switch transistor wherein the diode structure and the switch transistor are component of the integrated-optical microsystem. An active-pixel photosensor or image sensor using the integrated-optical microsystem is also described. A **sheet** scanner using the active-pixel photosensor is also described. An electronic writing equipment using the **sheet** scanner is also described. A pocket calculator using the **sheet** scanner is also described. An integrated-optical sensor comprising the integrated-optical microsystem is also described. A method of fabricating the integrated-optical microsystem is also described.

IT **92-24-0**, Tetracene
(**semiconductor layer**; integrated-optical

microsystem based on organic **semiconductors**)
 RN 92-24-0 HCAPLUS
 CN Naphthacene (CA INDEX NAME)



IC ICM H01L031-0328
 INCL 257200000
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
 Section cross-reference(s): 74, 76
 ST integrated optical microsystem org **semiconductor**
 IT Electroluminescent devices
 (displays; integrated-optical microsystem based on organic **semiconductors**)
 IT Luminescent screens
 (electroluminescent; integrated-optical microsystem based on organic **semiconductors**)
 IT Writing instruments
 (electronic; integrated-optical microsystem based on organic **semiconductors**)
 IT Optical instruments
 (integrated, microsystem; integrated-optical microsystem based on organic **semiconductors**)
 IT Electroluminescent devices
 Optical detectors
 Optical scanners
Semiconductor device fabrication
 (integrated-optical microsystem based on organic **semiconductors**)
 IT Polycarbonates, uses
 Polyimides, uses
 (**semiconductor layer**; integrated-optical microsystem based on organic **semiconductors**)
 IT Optical imaging devices
 (sensor; integrated-optical microsystem based on organic **semiconductors**)
 IT Polyamides, uses
 Polyesters, uses
 (substrate; integrated-optical microsystem based on organic **semiconductors**)
 IT 7631-86-9, Silicon dioxide, uses 12033-89-5, Silicon nitride, uses
 (elec. insulation **layer**; integrated-optical microsystem based on organic **semiconductors**)
 IT 7429-90-5, Aluminum, uses 7440-70-2, Calcium, uses
 (electron injection **layer**; integrated-optical microsystem based on organic **semiconductors**)
 IT 50926-11-9, Indium tin oxide
 (hole injection **layer**; integrated-optical microsystem based on organic **semiconductors**)
 IT 92-24-0, Tetracene 135-48-8, Pentacene 2085-33-8, Alq3
 9002-86-2, Polyvinyl chloride 9011-14-7, PMMA 25190-62-9,
 Poly(1,4-phenylene) 26009-24-5, Poly(1,4-phenylene-1,2-ethenediyl)
 (**semiconductor layer**; integrated-optical

microsystem based on organic **semiconductors**)
 IT 7440-21-3, Silicon, uses 9002-88-4, Polyethylene. 9003-07-0,
 Polypropylene 12597-68-1, Stainless steel, uses 25036-53-7, Kapton
 25038-59-9, Mylar, uses
 (substrate; integrated-optical microsystem based on organic
semiconductors)

REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR
 THIS RECORD. ALL CITATIONS AVAILABLE IN THE
 RE FORMAT

L44 ANSWER 25 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2003:983291 HCAPLUS Full-text
 DOCUMENT NUMBER: 140:279156
 TITLE: Nucleation of organic **semiconductors** on
 inert substrates
 AUTHOR(S): Verlaak, Stijn; Steudel, Soeren; Heremans, Paul;
 Janssen, Dimitri; Deleuze, Michael S.
 CORPORATE SOURCE: IMEC, Louvain, B-3001, Belg.
 SOURCE: Physical Review B: Condensed Matter and Materials
 Physics (2003), 68(19),
 195409/1-195409/11
 CODEN: PRBMDO; ISSN: 0163-1829
 PUBLISHER: American Physical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English

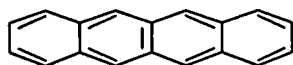
ED Entered STN: 17 Dec 2003

AB The authors have adapted the microscopic theory of nucleation for the
 epitaxial growth of inorg. materials to the nucleation of organic small mols.
 on an inert substrate like the gate dielec. of an organic thin- **film**
 transistor. The parameters required to explore the model were calculated with
 the standard MM3 force field and also include exptl. determined vapor pressure
 data, as well as **film** growth data. Sufficient agreement is found between the
 exptl. determined equilibrium crystal shape and heats of sublimation on the
 one hand and the calculated parameters on the other hand. The growth of
 pentacene, tetracene, and perylene on inert substrates was studied in terms of
 this theory, especially focusing on the two-dimensional (2D) to 3-dimensional
 nucleation transition. 3D nucleation leads to ill-connected grains, while 2-
 dimensional nucleated grains form continuous **films** suitable for charge
 transport. The anal. of this transition allows for the exptl. determination
 of the mol.-substrate interactions for a given mol. on a given surface. The
 deposition conditions for 2-dimensional growth shift to less favorable
 substrate temps. and deposition rates as the difference between interlayer
 interactions and mol.-substrate interactions increase and the intralayer
 interactions decrease. Also, those interactions affect the nucleation rate
 and therefore the ultimate 2-dimensional grain size that can be obtained.

IT 92-24-0P, Tetracene
 (nucleation of organic **semiconductors** on inert substrates
 for gate dielec. in thin **film** transistors)

RN 92-24-0 HCAPLUS

CN Naphthacene (CA INDEX NAME)



Section cross-reference(s): 22

ST nucleation epitaxy org **semiconductor** thin film transistor

IT Gate contacts
(dielec.; nucleation of organic **semiconductors** on inert substrates for gate dielec. in thin film transistors)

IT Electric insulators
(gate; nucleation of organic **semiconductors** on inert substrates for gate dielec. in thin film transistors)

IT Crystal nucleation
Epitaxy
Semiconductor device fabrication
Thin film transistors
(nucleation of organic **semiconductors** on inert substrates for gate dielec. in thin film transistors)

IT Organic compounds, uses
(nucleation of organic **semiconductors** on inert substrates for gate dielec. in thin film transistors)

IT **Semiconductor** materials
(organic; nucleation of organic **semiconductors** on inert substrates for gate dielec. in thin film transistors)

IT **92-24-0P**, Tetracene 135-48-8P, Pentacene 198-55-0P, Perylene
(nucleation of organic **semiconductors** on inert substrates for gate dielec. in thin film transistors)

REFERENCE COUNT: 43 THERE ARE 43 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L44 ANSWER 26 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2003:811610 HCAPLUS Full-text

DOCUMENT NUMBER: 139:284738

TITLE: **Semiconductor** memory cell with a field effect transistor component

INVENTOR(S): Schmid, Guenter; Halik, Marcus; Klauk, Hagen; Dehm, Christine; Haneder, Thomas; Mikolajick, Thomas

PATENT ASSIGNEE(S): Infineon Technologies AG, Germany

SOURCE: Ger. Offen., 14 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

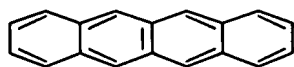
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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DE 10212926	A1	20031016	DE 2002-10212926	20020322
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US 2003234397	A1	20031225	US 2003-395428	20030324
			<--	
US 7049628	B2	20060523		
PRIORITY APPLN. INFO.:			DE 2002-10212926	A 20020322
			<--	

ED Entered STN: 16 Oct 2003

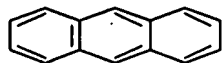
AB A **semiconductor** memory cell with a field-effect transistor component is suggested, with which between a 1st gate electrode and the gate isolation region a modulation material is intended. The modulation material can be controllably modulated with respect to its elec. and/or material characteristics, so that in accordance with these conditions the channel range

of the memory cell can be electromagnetically influenced, so that various information conditions are represented by various elec. currents detected flowing over the channel range.

IT 92-24-0D, Tetracene, derivs. 120-12-7D, Anthracene, derivs.
 (semiconductor memory cell with a field effect transistor component)
 RN 92-24-0 HCAPLUS
 CN Naphthacene (CA INDEX NAME)



RN 120-12-7 HCAPLUS
 CN Anthracene (CA INDEX NAME)



IC ICM H01L027-115
 CC 76-3 (Electric Phenomena)
 Section cross-reference(s): 38
 ST semiconductor memory device fabrication field effect transistor
 IT Polybenzoxazoles
 Polycarbonates, uses
 Polyesters, uses
 Polyethers, uses
 Polyimides, uses
 Polyurethanes, uses
 (gate dielec.; semiconductor memory cell with a field effect transistor component)
 IT Electric insulators
 (isolation; semiconductor memory cell with a field effect transistor component)
 IT Conducting polymers
 (polythiophenes, doped, gate contact; semiconductor memory cell with a field effect transistor component)
 IT Dielectric films
 Field effect transistors
 Gate contacts
 Semiconductor device fabrication
 Semiconductor memory devices
 (semiconductor memory cell with a field effect transistor component)
 IT Porphyrins
 (semiconductor memory cell with a field effect transistor component)
 IT 3144-16-9, Camphorsulfonic acid 50851-57-5, Polystyrenesulfonic acid

(gate contact dopant; **semiconductor** memory cell with a field effect transistor component)

IT 7440-02-0, Nickel, uses 7440-05-3, Palladium, uses 7440-06-4, Platinum, uses 7440-32-6, Titanium, uses 7440-50-8, Copper, uses 7440-57-5, Gold, uses

(gate contact; **semiconductor** memory cell with a field effect transistor component)

IT 1314-13-2, Zinc oxide, uses 1344-28-1, Alumina, uses 7631-86-9, Silica, uses 9002-88-4, Polyethylene 9003-53-6, Polystyrol 12033-89-5, Silicon nitride, uses 12055-23-1, Hafnium oxide (HfO₂)

(gate dielec.; **semiconductor** memory cell with a field effect transistor component)

IT 1518-16-7, TCNQ 37275-48-2, Bipyridine

(modulation **layer**; **semiconductor** memory cell with a field effect transistor component)

IT 92-24-0D, Tetracene, derivs. 120-12-7D, Anthracene, derivs. 135-48-8D, Pentacene, derivs. 147-14-8D, Copper phthalocyanine, derivs. 7440-21-3, Silicon, uses 66280-99-7D, Polyvinylthiophene, derivs.

(**semiconductor** memory cell with a field effect transistor component)

REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L44 ANSWER 27 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2003:774027 HCAPLUS Full-text

DOCUMENT NUMBER: 139:300175

TITLE: Side-gate-type organic FETs and organic EL devices

INVENTOR(S): Yahiro, Masayuki; Ishida, Kenji; Matsushige, Kazumi

PATENT ASSIGNEE(S): Kansai Technology Licensing Organization Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2003282884	A	20031003	JP 2002-86669	20020326
			<--	
PRIORITY APPLN. INFO.:			JP 2002-86669	20020326
			<--	

ED Entered STN: 03 Oct 2003

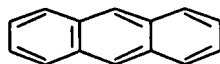
AB The FETs contain (a) gate electrodes on substrates, (b) organic **semiconductor** carrier transport **layers**, and (c) source and drain electrodes above and under the transport **layers**. Organic EL devices contain (a) ≥2 control electrodes on substrates, (b) luminescent **organic semiconductor layers**, (c) pairs of implantation electrode **layers** set above and under the **semiconductor layers**, and (d) light-emittance control circuits which apply opposite-polarity control voltage on the ≥2 electrodes.

IT 120-12-7, Anthracene, uses

(carrier transport **layers** for side-gate-type organic FETs and organic EL devices)

RN 120-12-7 HCAPLUS

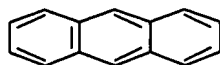
CN Anthracene (CA INDEX NAME)



IC ICM H01L029-786
 ICS H01L051-00; H05B033-14
 CC 76-3 (**Electric** Phenomena)
 Section cross-reference(s): 74
 IT Electroluminescent devices
 Field effect transistors
 (organic; carrier transport **layers** for side-gate-type organic FETs and organic EL devices)
 IT 109-27-3, Tetracene **120-12-7**, Anthracene, uses 135-48-8, Pentacene 147-14-8, Copper(II) phthalocyanine 5521-31-3, N,N'-Dimethylperylene-3,4,9,10 tetracarboxylic acid diimide 14916-87-1 88493-55-4, α -Sexithiophene
 (carrier transport **layers** for side-gate-type organic FETs and organic EL devices)
 L44 ANSWER 28 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2003:774026 HCAPLUS Full-text
 DOCUMENT NUMBER: 139:284569
 TITLE: Organic thin-film transistors
 INVENTOR(S): Kamata, Toshihide; Yoshida, Manabu
 PATENT ASSIGNEE(S): National Institute of Advanced Industrial Science and Technology, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2003282883	A	20031003	JP 2002-86374	20020326
			<--	
PRIORITY APPLN. INFO.:			JP 2002-86374	20020326
			<--	

ED Entered STN: 03 Oct 2003
 AB Electron-accepting compound **layers** are formed between source and drain electrodes and on **organic semiconductor layers** in the organic TFTs in which gate electrodes are formed in or on substrates, insulator **films** are formed on the gate electrodes and the substrates, and the source and drain electrodes are formed on the **semiconductor layers**. Energy barrier for carrier movement in the **semiconductor layers** is lowered, allowing low-voltage operation of the TFTs.
 IT **120-12-7**, Anthracene, uses
 (**organic semiconductor layers**; organic TFTs containing acceptor compound **layers** between source and drain electrodes)
 RN **120-12-7** HCAPLUS
 CN Anthracene (CA INDEX NAME)

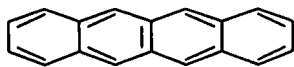


IC ICM H01L029-786
ICS H01L051-00
CC 76-3 (**Electric** Phenomena)
ST org thin **film** transistor acceptor compd
IT Electron acceptors
Thin **film** transistors
(organic TFTs containing acceptor compound **layers** between source and drain electrodes)
IT 5521-31-3, N,N'-Dimethylperylene-3,4,9,10 tetracarboxylic acid diimide
(electron accepting compds.; organic TFTs containing acceptor compound **layers** between source and drain electrodes)
IT 120-12-7, Anthracene, uses 135-48-8, Pentacene 198-55-0, Perylene
(**organic semiconductor layers**; organic TFTs containing acceptor compound **layers** between source and drain electrodes)

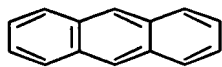
L44 ANSWER 29 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2003:771173 HCAPLUS Full-text
DOCUMENT NUMBER: 139:269377
TITLE: Design and fabrication of a transponder circuit with a rectifier switch
INVENTOR(S): Schmid, Guenter; Klauk, Hagen; Kriem, Tarik
PATENT ASSIGNEE(S): Infineon Technologies AG, Germany
SOURCE: Ger. Offen., 12 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
DE 10209400	A1	20031002	DE 2002-10209400	20020304
			<--	
PRIORITY APPLN. INFO.:			DE 2002-10209400	20020304
			<--	

ED Entered STN: 02 Oct 2003
AB The present invention discloses a transponder circuit with a rectifier switch, which includes at least one component that contains at least one **layer** of organic material. The organic material consists of an inert polymer that serves as a matrix material, in which a **semiconductive** material is embedded. The device includes **semiconductor layers** structured as diodes or field effect transistors.
IT 92-24-0, Tetracene 120-12-7, Anthracene, uses
(organic conductor; design and fabrication of a transponder circuit with a rectifier switch)
RN 92-24-0 HCAPLUS
CN Naphthacene (CA INDEX NAME)



RN 120-12-7 HCAPLUS
CN Anthracene (CA INDEX NAME)



IC ICM H04B001-59
ICS H01L051-20
CC 76-14 (**Electric** Phenomena)
IT **92-24-0**, Tetracene **120-12-7**, Anthracene, uses
135-48-8, Pentacene 574-93-6, Phthalocyanine 25190-62-9, Poly
(p-phenylene) 25233-34-5, Polythiophene 26009-24-5,
Poly(p-phenylenevinylene)
(organic conductor; design and fabrication of a transponder circuit
with a rectifier switch)

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN THE
RE FORMAT

L44 ANSWER 30 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2003:737211 HCAPLUS Full-text

DOCUMENT NUMBER: 139:238605

TITLE: Surface modified organic thin-film
transistors

INVENTOR(S): Smith, Terrance P.; Pellerite, Mark J.; Kelley,
Tommie W.; Muyres, Dawn V.; Vogel, Dennis E.;
Vogel, Kim M.; Boardman, Larry D.; Dunbar, Timothy
D.

PATENT ASSIGNEE(S): 3M Innovative Properties Co., USA

SOURCE: U.S. Pat. Appl. Publ., 13 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 2003175551	A1	20030918	US 2002-94007	20020307
			<--	
US 6768132	B2	20040727		
WO 2003077327	A1	20030918	WO 2003-US3905	20030211
			<--	

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CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD,
GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ,
LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ,

NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ,
 TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ,
 BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,
 EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI,
 SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE,
 SN, TD, TG

AU 2003209087	A1	20030922	AU 2003-209087	20030211
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EP 1481428	A1	20041201	EP 2003-707815	20030211
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R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
JP 2005519486	T	20050630	JP 2003-575431	20030211
			<--	
CN 1639884	A	20050713	CN 2003-805321	20030211
			<--	
PRIORITY APPLN. INFO.:			US 2002-94007	A 20020307
			<--	
			WO 2003-US3905	W 20030211
			<--	

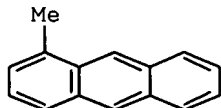
ED Entered STN: 19 Sep 2003

AB Provided is an organic thin-film transistor comprising a self-assembled monolayer interposed between a gate dielec. and an **organic semiconductor layer**. The monolayer is a product of a reaction between the gate dielec. and a precursor to the self-assembled monolayer. The **semiconductor layer** comprises a material selected from an acene, substituted with at least one electron-donating group, halogen atom, or a combination thereof, or a benzo-annellated acene or polybenzo-annellated acene, which optionally is substituted with at least one electron-donating group, halogen atom, or a combination thereof. Methods of making a thin-film transistor and an integrated circuit comprising thin-film transistors are also provided.

IT **610-48-0**, 1-Methylantracene **613-06-9**,
 2,3-Dimethylantracene **613-12-7**, 2-Methylantracene
15254-25-8, 2,3,6,7-Tetramethylantracene **40476-21-9**
 , 1-Methyltetracene **52251-71-5**, 2-Ethylantracene
53666-94-7, 1,2-Dimethylantracene **66553-01-3**,
 1,2,3,4-Tetramethylantracene
 (surface modified organic thin-film transistors)

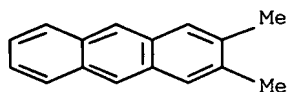
RN **610-48-0** HCAPLUS

CN Anthracene, 1-methyl- (CA INDEX NAME)

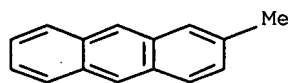


RN **613-06-9** HCAPLUS

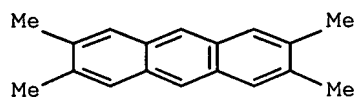
CN Anthracene, 2,3-dimethyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



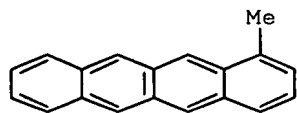
RN 613-12-7 HCAPLUS
CN Anthracene, 2-methyl- (CA INDEX NAME)



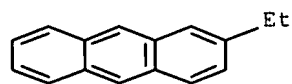
RN 15254-25-8 HCAPLUS
CN Anthracene, 2,3,6,7-tetramethyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



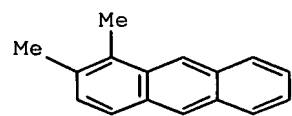
RN 40476-21-9 HCAPLUS
CN Naphthacene, 1-methyl- (6CI, 9CI) (CA INDEX NAME)



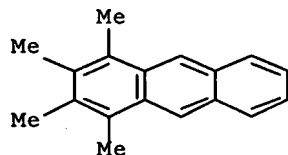
RN 52251-71-5 HCAPLUS
CN Anthracene, 2-ethyl- (CA INDEX NAME)



RN 53666-94-7 HCAPLUS
CN Anthracene, 1,2-dimethyl- (7CI, 9CI) (CA INDEX NAME)



RN 66553-01-3 HCAPLUS
 CN Anthracene, 1,2,3,4-tetramethyl- (6CI, 9CI) (CA INDEX NAME)

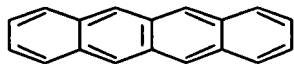


IC ICM H01L051-00
 INCL 428690000
 CC 76-3 (**Electric** Phenomena)
 ST surface modified org thin **film** transistor
 IT Polyacenes
 (derivs.; surface modified organic thin-**film** transistors)
 IT Organic compounds, properties
 (**semiconductive**; surface modified organic thin-**film**
 transistors)
 IT Integrated circuits
 Semiconductor materials
 Thin **film** transistors
 (surface modified organic thin-**film** transistors)
 IT 193-09-9, Dibenzo[de,qr]tetracene 193-11-3, Dibenzo[de,uv]pentacene
 214-63-1, Zethrene **610-48-0**, 1-Methylantracene
613-06-9, 2,3-Dimethylantracene **613-12-7**,
 2-Methylantracene 14147-38-7, Dibenzo[de,st]pentacene
15254-25-8, 2,3,6,7-Tetramethylantracene **40476-21-9**
 , 1-Methyltetracene 40476-23-1 **52251-71-5**,
 2-Ethylantracene **53666-94-7**, 1,2-Dimethylantracene
66553-01-3, 1,2,3,4-Tetramethylantracene 499138-96-4,
 2,3,9,10-Tetramethylpentacene
 (surface modified organic thin-**film** transistors)
 REFERENCE COUNT: 49 THERE ARE 49 CITED REFERENCES AVAILABLE FOR
 THIS RECORD. ALL CITATIONS AVAILABLE IN THE
 RE FORMAT

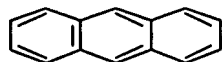
L44 ANSWER 31 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2003:590486 HCAPLUS Full-text
 DOCUMENT NUMBER: 139:126067
 TITLE: Electronic devices containing organic
 semiconductor materials including
 mono-substituted diphenylhydrazone derivatives
 INVENTOR(S): Stasiak, James
 PATENT ASSIGNEE(S): Hewlett-Packard Development Company, L.P., USA
 SOURCE: U.S. Pat. Appl. Publ., 14 pp.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 2003141498	A1	20030731	US 2002-59664	20020128
			<--	

US 6864118 B2 20050308
 TW 565935 B 20031211 TW 2002-91111159 20020527
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 WO 2003065473 A1 20030807 WO 2003-US2464 20030128
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 GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ,
 LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ,
 NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ,
 TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ,
 BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,
 EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI,
 SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE,
 SN, TD, TG
 EP 1470599 A1 20041027 EP 2003-705938 20030128
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 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,
 PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK
 JP 2005516421 T 20050602 JP 2003-564953 20030128
 <--
 NO 2004003432 A 20040817 NO 2004-3432 20040817
 <--
 US 2005151130 A1 20050714 US 2005-39444 20050118
 <--
 PRIORITY APPLN. INFO.: US 2002-59664 A 20020128
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 WO 2003-US2464 W 20030128
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 ED Entered STN: 01 Aug 2003
 AB An electronic device is presented that includes 1st and 2nd elec. contacts
 elec. coupled to a **semiconductor** polymer **film**, which includes mono-substituted
 diphenylhydrazone.
 IT **92-24-0**, Naphthacene **120-12-7**, Anthracene, uses
 (contact material; electronic devices containing organic
semiconductor materials including mono-substituted
 phenylhydrazone derivs.)
 RN 92-24-0 HCAPLUS
 CN Naphthacene (CA INDEX NAME)



RN 120-12-7 HCAPLUS
 CN Anthracene (CA INDEX NAME)



IC ICM H01L029-04
ICS H01L029-76; H01L029-94; H01L035-24; H01L051-00; H01L031-036

INCL 257040000; 257288000; 257072000

CC 76-3 (**Electric** Phenomena)
Section cross-reference(s): 25, 38

ST org **semiconductor** device fabrication

IT Polyesters, uses
(UV transmission **layer**; electronic devices containing organic **semiconductor** materials)

IT Polyanilines
(contact material; electronic devices containing organic **semiconductor** materials including mono-substituted phenylhydrazone derivs.)

IT Polycarbonates, uses
(device insulator **layer**; electronic devices containing organic **semiconductor** materials including mono-substituted phenylhydrazone derivs.)

IT Inks
(elec. conductive, contact material; electronic devices containing organic **semiconductor** materials including mono-substituted phenylhydrazone derivs.)

IT Ink-jet printing
(electronic devices containing organic **semiconductor** materials)

IT Electric contacts
Semiconductor device fabrication
(electronic devices containing organic **semiconductor** materials including mono-substituted phenylhydrazone derivs.)

IT Electric conductors
(inks, contact material; electronic devices containing organic **semiconductor** materials including mono-substituted phenylhydrazone derivs.)

IT **Semiconductor** materials
(organic; electronic devices containing organic **semiconductor** materials including mono-substituted phenylhydrazone derivs.)

IT Epoxy resins, uses
Polyesters, uses
Polyimides, uses
(passivation **layer**; electronic devices containing organic **semiconductor** materials including mono-substituted phenylhydrazone derivs.)

IT Polyimides, uses
(polyether-, passivation **layer**; electronic devices containing organic **semiconductor** materials including mono-substituted phenylhydrazone derivs.)

IT Polyethers, uses
(polyimide-, passivation **layer**; electronic devices containing organic **semiconductor** materials including mono-substituted phenylhydrazone derivs.)

IT Liquid crystals, polymeric
(substrate; electronic devices containing organic **semiconductor** materials)

IT Glass, uses
(substrate; electronic devices containing organic **semiconductor** materials)

IT 25038-59-9, Polyethylene terephthalate, uses
(UV transmission **layer**; electronic devices containing organic **semiconductor** materials)

IT 7631-86-9, Silica, uses 50926-11-9, Indium tin oxide
(UV transmission **layer**; electronic devices containing organic

- semiconductor** materials including mono-substituted phenylhydrazone derivs.)
- IT 85-01-8, Phenanthrene, uses **92-24-0**, Naphthacene 110-02-1, Thiophene **120-12-7**, Anthracene, uses 129-00-0, Pyrene, uses 135-48-8, Pentacene 7429-90-5, Aluminum, uses 7439-98-7, Molybdenum, uses 7440-06-4, Platinum, uses 7440-22-4, Silver, uses 7440-25-7, Tantalum, uses 7440-32-6, Titanium, uses 7440-33-7, Tungsten, uses 7440-47-3, Chromium, uses 7440-50-8, Copper, uses 7440-57-5, Gold, uses 30604-81-0, Polypyrrole
(contact material; electronic devices containing organic **semiconductor** materials including mono-substituted phenylhydrazone derivs.)
- IT 9002-88-4, Polyethylene 9003-07-0, Polypropylene 9003-53-6, Polystyrene 59269-51-1, Polyvinylphenol
(device insulator **layer**; electronic devices containing organic **semiconductor** materials including mono-substituted phenylhydrazone derivs.)
- IT 588-64-7D, Diphenylhydrazone, derivs.
(electronic devices containing organic **semiconductor** materials including mono-substituted phenylhydrazone derivs.)
- IT 24968-11-4, Polyethylene naphthalate 24968-12-5, Polybutylene terephthalate 25230-87-9
(passivation **layer**; electronic devices containing organic **semiconductor** materials including mono-substituted phenylhydrazone derivs.)
- IT 68189-23-1, Benzaldehyde, 4-(Diethylamino)-, diphenylhydrazone 71135-02-9, Benzaldehyde, 4-(Dimethylamino)-, diphenylhydrazone 82532-76-1, Benzaldehyde, 4-(diphenylamino)-, diphenylhydrazone
(**semiconductor layer**; electronic devices containing organic **semiconductor** materials)
- IT 1344-28-1, Alumina, uses 7440-21-3, Silicon, uses 9002-86-2, Polyvinyl chloride 9003-01-4D, Polyacrylic acid, derivs. 10043-11-5, Boron nitride, uses
(substrate; electronic devices containing organic **semiconductor** materials)

REFERENCE COUNT: 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L44 ANSWER 32 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2003:510443 HCAPLUS Full-text

DOCUMENT NUMBER: 139:61360

TITLE: Organic electroluminescence transistors

INVENTOR(S): Iechi, Hiroyuki; Akiyama, Zenichi; Kondo, Hiroshi; Tano, Takanori

PATENT ASSIGNEE(S): Ricoh Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2003187983	A	20030704	JP 2001-383624	20011217
			<--	
US 2003213952	A1	20031120	US 2002-320021	20021216
			<--	
US 7126153	B2	20061024		

US 2006243971 A1 20061102 US 2006-472597 20060621
 <--
 PRIORITY APPLN. INFO.: JP 2001-383624 A 20011217
 <--
 US 2002-320021 A1 20021216
 <--

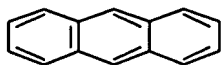
ED Entered STN: 04 Jul 2003

AB The title transistors comprise a meshed or comb-shaped gate electrode buried inside an **organic semiconductor layer** which is bound across between a source electrode and a drain electrode **laminated** in parallel. The **organic semiconductor layer** is made of field emission electroluminescence organic **semiconductor** material such as naphthalene, anthracene, tetracene, pentacene, hexacene, phthalocyanine compds., azo compds., perylene compds., triphenylmethane compds., stilbene compds., poly-N-vinylcarbazole, or polyvinylpyrene. The organic **semiconductor** gives the transistors increased electron mobility, increased power, and increased emission efficiency.

IT 120-12-7, Anthracene, properties 258-31-1, Hexacene
 (organic electroluminescence **semiconductor**; organic electroluminescence transistors)

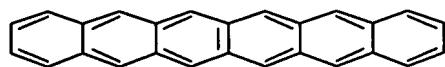
RN 120-12-7 HCAPLUS

CN Anthracene (CA INDEX NAME)



RN 258-31-1 HCAPLUS

CN Hexacene (CA INDEX NAME)



IC ICM H05B033-26

ICS G09F009-30; H01L051-00; H05B033-12; H05B033-14

CC 76-3 (**Electric** Phenomena)

ST electroluminescence field emission org **semiconductor** transistor

IT Luminescent substances

(electroluminescent, organic **semiconductor**; organic electroluminescence transistors)

IT Azo compounds

(organic electroluminescence **semiconductor**; organic electroluminescence transistors)

IT **Semiconductor** materials

Transistors

(organic electroluminescence; organic electroluminescence transistors)

IT Field emission

(organic **semiconductor** materials for; organic electroluminescence transistors)

IT 126213-51-2, PEDOT

(hole injection **layer**; organic electroluminescence transistors)

IT 91-20-3, Naphthalene, properties 120-12-7, Anthracene, properties 135-48-8, Pentacene 198-55-0, Perylene 258-31-1, Hexacene 519-73-3, Triphenylmethane 574-93-6, Phthalocyanine 588-59-0, Stilbene 25067-59-8, Poly-N-vinylcarbazole 51134-09-9, Polyvinylpyrene 96638-49-2, Polyphenylenevinylene (organic electroluminescence **semiconductor**; organic electroluminescence transistors)

L44 ANSWER 33 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2003:472939 HCAPLUS Full-text

DOCUMENT NUMBER: 139:45745

TITLE: Design of a magnetoresistive element using an organic nonmagnetic **layer**

INVENTOR(S): Granstrom, Eric L.

PATENT ASSIGNEE(S): Seagate Technology LLC, USA

SOURCE: U.S. Pat. Appl. Publ., 14 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 2003112564	A1	20030619	US 2002-306384	20021127

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PRIORITY APPLN. INFO.: US 2001-333624P P 20011127

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ED Entered STN: 20 Jun 2003

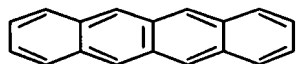
AB The invention relates to the design of a magnetoresistive element using an organic nonmagnetic **layer**. A magnetoresistive element has two magnetic **layers** and a nonmagnetic middle **layer** having organic mols. disposed between the two magnetic **layers**. The middle **layer** is thinner than 5 nm. The magnetoresistive element exhibits a magnetoresistive effect as a function of the relative alignment of magnetizations of the first and the **second** magnetic **layers** and is used in a magnetoresistive sensor.

IT 92-24-0, Tetracene 92-24-0D, Tetracene, derivs.

(design of a magnetoresistive element using an organic nonmagnetic **layer**)

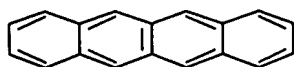
RN 92-24-0 HCAPLUS

CN Naphthacene (CA INDEX NAME)



RN 92-24-0 HCAPLUS

CN Naphthacene (CA INDEX NAME)



- IC ICM G11B005-127
ICS G11B005-33
- INCL 360324120; 360324200
- CC 77-8 (Magnetic Phenomena)
Section cross-reference(s): 21, 38, **76**, 78
- ST magnetoresistor org nonmagnetic **layer**
- IT Polyacetylenes, uses
(derivs., organic **layer**; design of a magnetoresistive element using an organic nonmagnetic **layer**)
- IT Electrodeposition
Heating
Magnetic **films**
Magnetic memory devices
Magnetoresistors
Self-assembled monolayers
Semiconductor films
(design of a magnetoresistive element using an organic nonmagnetic **layer**)
- IT Fullerenes
(design of a magnetoresistive element using an organic nonmagnetic **layer**)
- IT Aromatic hydrocarbons, uses
Polyacenes
Polyacetylenes, uses
Polyanilines
Polydiacetylenes
Polyphenyls
(organic **layer**; design of a magnetoresistive element using an organic nonmagnetic **layer**)
- IT Conducting polymers
(polyfurans, organic **layer**; design of a magnetoresistive element using an organic nonmagnetic **layer**)
- IT Conducting polymers
(polypyrroles, organic **layer**; design of a magnetoresistive element using an organic nonmagnetic **layer**)
- IT Conducting polymers
(polythiophenes, organic **layer**; design of a magnetoresistive element using an organic nonmagnetic **layer**)
- IT Sublimation
(resublimation, deposition by; design of a magnetoresistive element using an organic nonmagnetic **layer**)
- IT Polymers, uses
(**semiconducting**; design of a magnetoresistive element using an organic nonmagnetic **layer**)
- IT Coating process
(spin; design of a magnetoresistive element using an organic nonmagnetic **layer**)
- IT Vapor deposition process
(vacuum; design of a magnetoresistive element using an organic nonmagnetic **layer**)
- IT **92-24-0**, Tetracene **92-24-0D**, Tetracene, derivs.
129-00-0, Pyrene, uses 129-00-0D, Pyrene, derivs. 135-48-8, Pentacene 135-48-8D, Pentacene, derivs. 191-07-1, Coronene

191-07-1D, Coronene, derivs. 198-55-0, Perylene 198-55-0D,
 Perylene, derivs. 218-01-9, Chrysene 218-01-9D, Chrysene, derivs.
 (design of a magnetoresistive element using an organic nonmagnetic
 layer)
 IT 25013-01-8, Polypyridine 25013-01-8D, Polypyridine, derivs.
 25067-58-7, Polyacetylene 25067-58-7D, Polyacetylene, derivs.
 26571-64-2, Polyvinylene 26571-64-2D, Polyvinylene, derivs.
 99685-96-8, Buckminsterfullerene 99685-96-8D, Buckminsterfullerene,
 derivs.
 (organic layer; design of a magnetoresistive element using
 an organic nonmagnetic layer)
 IT 147-14-8, Copper phthalocyanine 14074-80-7, Tetraphenylporphine zinc
 chelate 14154-42-8, Aluminum phthalocyanine chloride 79079-35-9
 (organic layer; design of a magnetoresistive element using
 an organic nonmagnetic layer)

L44 ANSWER 34 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2003:435364 HCAPLUS Full-text
 DOCUMENT NUMBER: 139:15943
 TITLE: Design of **semiconductor** devices composed
 of pentacene derivatives
 INVENTOR(S): Smith, Terrance P.; Vogel, Dennis E.; Vogel, Kim
 M.
 PATENT ASSIGNEE(S): 3M Innovative Properties Company, USA
 SOURCE: U.S. Pat. Appl. Publ., 19 pp., Cont.-in-part of
 U.S. Ser. No. 966,961.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2003105365	A1	20030605	US 2002-256616	20020927
			<--	
US 6864396	B2	20050308		
CN 1582506	A	20050216	CN 2002-822123	20020927
			<--	
AT 331304	T	20060715	AT 2002-763754	20020927
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PRIORITY APPLN. INFO.:			US 2001-966961	A2 20010927
			<--	

OTHER SOURCE(S): MARPAT 139:15943

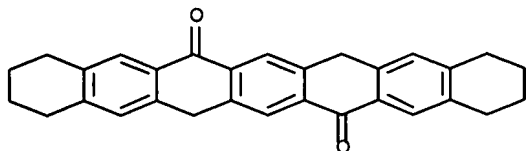
ED Entered STN: 06 Jun 2003

AB The invention relates to the design of **semiconductor** devices composed of pentacene derivs. The substituted pentacene compds. consist of at least one substituent selected from electron-donating substituents and halogen substituents, where the substituents are each being bonded to a carbon atom of a terminal ring of pentacene, and are the only substituents, with the proviso that when the compound has only two substituents, both of which are Me or alkoxy, and one substituent is bonded to the number 2 carbon atom, the other substituent, if Me, is bonded to the number 1, 3, 4, 8, or 11 carbon atom and, if alkoxy, is bonded to the number 1, 3, 4, 8, 9, or 11 carbon atom; and with the further proviso that when the compound has only four substituents, all of which are alkoxy, the substituents are bonded to the nos. 2, 3, 9, and 10 carbon atoms.

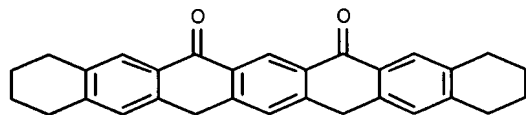
IT 503603-50-7P 503603-51-8P

(design of **semiconductor** devices composed of pentacene derivs.)

RN 503603-50-7 HCAPLUS
 CN 6,15-Heptacenedione, 1,2,3,4,8,10,11,12,13,17-decahydro- (9CI) (CA INDEX NAME)

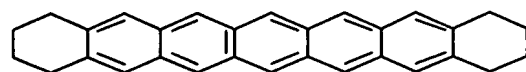


RN 503603-51-8 HCAPLUS
 CN 6,8(1H,11H)-Heptacenedione, 2,3,4,10,12,13,15,17-octahydro- (9CI) (CA INDEX NAME)



IT **503603-30-3P**, 1,2,3,4,10,11,12,13-Octahydroheptacene
 (design of **semiconductor** devices composed of pentacene
 derivs.)

RN 503603-30-3 HCAPLUS
 CN Heptacene, 1,2,3,4,10,11,12,13-octahydro- (9CI) (CA INDEX NAME)



IC ICM C07C039-24
 INCL 568774000
 CC 76-3 (**Electric** Phenomena)
 Section cross-reference(s): 25
 ST **semiconductor** device pentacene deriv
 IT **Semiconductor** devices
 Thin film transistors
 (design of **semiconductor** devices composed of pentacene
 derivs.)
 IT 7440-05-3, Palladium, uses 7446-70-0, Aluminum chloride, uses
 (design of **semiconductor** devices composed of pentacene
 derivs.)
 IT 64-19-7, Acetic acid, processes 76-05-1, Trifluoroacetic acid,
 processes 1493-13-6, Trifluoromethanesulfonic acid 7647-01-0,
 Hydrochloric acid, processes 16940-66-2, Sodium borohydride
 (design of **semiconductor** devices composed of pentacene
 derivs.)
 IT 135-48-8D, Pentacene, substituted by electron-donating groups and

- halogen 503603-71-2, 2,10-Dihexylpentacene 503603-72-3, Pentacene,
2,10-dinonyl 503603-73-4, Pentacene, 2,10-Didodecyl 503603-74-5,
Pentacene, 2,10-bis(1-methylpropyl)- 503603-75-6, Pentacene,
2,10-bis(3,5,5-trimethylhexyl) 503603-76-7, Pentacene,
2,10-bis(2-ethylhexyl)
(design of **semiconductor** devices composed of pentacene
derivs.)
- IT 503603-27-8P, 2,9-Dihexylpentacene 503603-28-9P,
2,9-Dinonylpentacene 503603-29-0P, Pentacene, 2,9-Didodecyl
503603-31-4P, 2,9-Di-sec-butylpentacene 503603-33-6P,
2,9-Di-3,5,5-trimethylhexylpentacene 503603-34-7P,
2,9-Di-2-ethylhexylpentacene
(design of **semiconductor** devices composed of pentacene
derivs.)
- IT 89-32-7, Benzene-1,2,4,5-tetracarboxylic acid dianhydride 123-01-3,
1-Dodecylbenzene 1077-16-3, Hexylbenzene 7087-68-5,
Diisopropylethylamine 36727-29-4, 3,5,5-Trimethylhexanoyl chloride
52497-39-9 503603-59-6, Benzene, 3,5,5-Trimethylhexyl-
503603-66-5, 2,5-Bis(4-methylbenzoyl)terephthalic acid 536724-82-0
(design of **semiconductor** devices composed of pentacene
derivs.)
- IT 503603-37-0P, 2,5-Bis(4-hexylbenzoyl)terephthalic Acid 503603-38-1P,
2,5-Bis(4-hexylbenzyl)terephthalic Acid 503603-39-2P,
3,10-Dihexyl-7,14-dihdropentacene-5,12-dione 503603-40-5P,
2,5-Bis(4-nonylbenzoyl)terephthalic Acid 503603-41-6P,
2,5-Bis(4-nonylbenzyl)terephthalic Acid 503603-42-7P,
7,14-Dihydro-3,10-dinonylpentacene-5,12-dione 503603-43-8P,
2,5-Bis(4-dodecylbenzoyl)terephthalic Acid 503603-44-9P,
2,5-Bis(4-dodecylbenzyl)terephthalic Acid 503603-45-0P,
3,10-Didodecyl-7,14-dihdropentacene-5,12-dione 503603-46-1P,
2,5-Bis(5,6,7,8-tetrahydronaphthalene-2-carbonyl)terephthalic Acid
503603-47-2P, 4,6-Bis(5,6,7,8-tetrahydronaphthalene-2-
carbonyl)isophthalic acid 503603-48-3P, 2,5-Bis(5,6,7,8-
tetrahydronaphthalen-2-ylmethyl)terephthalic Acid 503603-49-4P,
4,6-Bis(5,6,7,8-tetrahydronaphthalen-2-ylmethyl)isophthalic acid
503603-50-7P 503603-51-8P 503603-52-9P,
2,5-Bis(4-sec-butylbenzoyl)terephthalic Acid 503603-53-0P,
2,5-Bis(4-sec-butylbenzyl)terephthalic acid 503603-54-1P,
3,10-Di-sec-butyl-7,14-dihdropentacene-5,12-dione 503603-55-2P,
2,5-Bis(2,5-dimethylbenzoyl)terephthalic Acid 503603-56-3P
503603-57-4P, 7,14-Dihydro-1,4,8,11-Tetramethylpentacene-5,12-dione
503603-58-5P 503603-60-9P, 2,5-Bis(4-(3,5,5-
trimethylhexyl)benzoyl)terephthalic acid 503603-62-1P,
7,14-Dihydro-3,10-(3,5,5-trimethylhexyl)pentacene-5,12-dione
503603-63-2P, 2,5-Bis(4-(2-ethylhexyl)benzoyl)terephthalic acid
503603-64-3P, 2,5-Bis(4-(2-ethylhexyl)benzyl)terephthalic acid
503603-65-4P, 3,10-Di(2-ethylhexyl)-7,14-dihdropentacene-5,12-dione
503603-67-6P, 2,5-Bis(4-methylbenzyl)terephthalic Acid 503603-68-7P,
7,14-Dihydro-3,10-dimethylpentacene-5,12-dione 503603-69-8P,
4,6-Bis(4-methylbenzyl)isophthalic Acid 503603-70-1P,
3,9-Dimethylpentacene-5,7(12H,14H)-dione
(design of **semiconductor** devices composed of pentacene
derivs.)
- IT 503603-30-3P, 1,2,3,4,10,11,12,13-Octahydroheptacene
503603-32-5P, 1,4,8,11-Tetramethylpentacene 503603-35-8P, 2,9
Dimethylpentacene 503603-36-9P, 2,10 Dimethylpentacene
(design of **semiconductor** devices composed of pentacene
derivs.)

REFERENCE COUNT: 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN THE

RE FORMAT

L44 ANSWER 35 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2003:413922 HCAPLUS Full-text
 DOCUMENT NUMBER: 139:14699
 TITLE: Environmentally-stable organic electroluminescent
 fibers
 INVENTOR(S): Duggal, Anil Raj; Olson, Daniel Robert
 PATENT ASSIGNEE(S): General Electric Company, USA
 SOURCE: U.S. Pat. Appl. Publ., 21 pp.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
US 2003099858	A1	20030529	US 2001-683139	20011127
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US 6753096	B2	20040622		
US 2004212301	A1	20041028	US 2004-846878	20040517
			<--	
US 6855027	B2	20050215		
PRIORITY APPLN. INFO.:			US 2001-683139	A3 20011127
			<--	

ED Entered STN: 30 May 2003

AB Flexible organic electroluminescent fibers (OLEF) are described which comprise a core that comprises a first elec. conducting material forming a first electrode; ≥ 1 **layer** of ≥ 1 organic electroluminescent (EL) material formed on the first elec. conducting material; a **second** electrode **layer** of a **second** elec. conducting material forming a second electrode that is formed on the ≥ 1 **layer** of the ≥ 1 organic EL material; and ≥ 1 barrier **layer** formed over the second electrode, the barrier **layer** surrounding the ≥ 1 organic EL material and the second electrode and comprising a plurality of sublayers of a polymeric material and an inorg. material. The flexible OLEF may contain in addition an encapsulating **layer** formed over the ≥ 1 barrier and covering an entirety of the fiber; and a wavelength-adjusting **layer** that comprises ≥ 1 phosphor dispersed in a polymer, the wavelength-adjusting **layer** being disposed on a surface selected from the surface of the ≥ 1 barrier **layer** and the surface of the encapsulating **layer**. Methods for making flexible OLEF are also discussed as are apparatus for a continuous fabrication of a flexible OLEF.

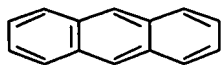
IT 120-12-7, Anthracene, uses 517-51-1, Rubrene

28802-91-7, Phenylanthracene

(electroluminescent material; environmentally-stable fiber-shaped organic electroluminescent devices employing polymer/inorg. barrier **multilayer**)

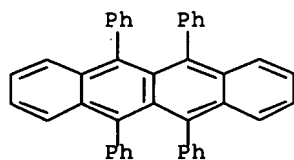
RN 120-12-7 HCAPLUS

CN Anthracene (CA INDEX NAME)



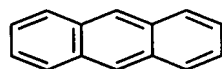
RN 517-51-1 HCAPLUS

CN Naphthacene, 5,6,11,12-tetraphenyl- (CA INDEX NAME)



RN 28802-91-7 HCAPLUS

CN Anthracene, phenyl- (8CI, 9CI) (CA INDEX NAME)



D1- Ph

IC ICM H05B033-00

INCL 428690000; 428917000; 428373000; 428378000; 428401000; 313504000;
313506000; 313511000; 313512000; 313112000

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 38, 74, 76, 78

ST environmentally stable org electroluminescent fiber OLED fabrication;
org electroluminescent device fiber shape polymer inorg
multilayer barrier

IT Transition metal nitrides
(Group IIIB element, barrier **layer**; environmentally-
stable fiber-shaped organic electroluminescent devices employing
polymer/inorg. barrier **multilayer**)

IT Acrylic polymers, uses
Group IVB element nitrides
Nitrides

Oxides (inorganic), uses

Polyesters, uses

(barrier **layer**; environmentally-stable fiber-shaped organic
electroluminescent devices employing polymer/inorg. barrier
multilayer)

IT Metals, uses
(core, barrier **layer**; environmentally-stable fiber-shaped
organic electroluminescent devices employing polymer/inorg. barrier
multilayer)

IT Glass, uses
(core; environmentally-stable fiber-shaped organic electroluminescent
devices employing polymer/inorg. barrier **multilayer**)

IT Polysilanes
(derivs. and copolymers, electroluminescent material;
environmentally-stable fiber-shaped organic electroluminescent devices
employing polymer/inorg. barrier **multilayer**)

IT Electroluminescent devices
(displays, fiber-shaped; environmentally-stable fiber-shaped organic

- electroluminescent devices employing polymer/inorg. barrier **multilayer**)
- IT Luminescent screens
 - (electroluminescent, fiber-shaped; environmentally-stable fiber-shaped organic electroluminescent devices employing polymer/inorg. barrier **multilayer**)
- IT Epoxy resins, uses
 - Polysiloxanes, uses
 - (encapsulating **layer**; for continuous fabrication of flexible OLEF).
- IT Composites
 - Electronic packages
 - Semiconductor** device fabrication
 - (environmentally-stable fiber-shaped organic electroluminescent devices employing polymer/inorg. barrier **multilayer**)
- IT Polymers, uses
 - (environmentally-stable fiber-shaped organic electroluminescent devices employing polymer/inorg. barrier **multilayer**)
- IT Electroluminescent devices
 - (fiber-shaped; environmentally-stable fiber-shaped organic electroluminescent devices employing polymer/inorg. barrier **multilayer**)
- IT Coating materials
 - (impermeable, environmental barrier; environmentally-stable fiber-shaped organic electroluminescent devices employing polymer/inorg. barrier **multilayer**)
- IT Materials
 - (inorg.; environmentally-stable fiber-shaped organic electroluminescent devices employing polymer/inorg. barrier **multilayer**)
- IT Group IIIB element pnictides
 - (nitrides, barrier **layer**; environmentally-stable fiber-shaped organic electroluminescent devices employing polymer/inorg. barrier **multilayer**)
- IT Azo dyes
 - Cyanine dyes
 - (phosphor; environmentally-stable fiber-shaped organic electroluminescent devices employing polymer/inorg. barrier **multilayer**)
- IT Cycloalkenes
 - Epoxides
 - (polymers, barrier **layer**; environmentally-stable fiber-shaped organic electroluminescent devices employing polymer/inorg. barrier **multilayer**)
- IT Phosphors
 - (wavelength-adjusting coating; environmentally-stable fiber-shaped organic electroluminescent devices employing polymer/inorg. barrier **multilayer**)
- IT Dyes
 - (xanthene, phosphor; environmentally-stable fiber-shaped organic electroluminescent devices employing polymer/inorg. barrier **multilayer**)
- IT 7440-05-3, Palladium, uses 7440-05-3D, Palladium, derivs.
 7440-06-4, Platinum, uses 7440-06-4D, Platinum, derivs. 7440-50-8, Copper, uses 7440-50-8D, Copper, derivs. 7440-57-5, Gold, uses 7440-57-5D, Gold, derivs. 9002-85-1, Poly(vinylidene chloride) 9002-89-5, Poly(vinyl alcohol) 24981-14-4, Poly(vinyl fluoride) 25038-59-9, Polyethyleneterephthalate, uses 25722-33-2D, Parylene, derivs. 93409-71-3, Glyoxal-vinyl alcohol copolymer
 (barrier **layer**; environmentally-stable fiber-shaped organic

- electroluminescent devices employing polymer/inorg. barrier **multilayer**)
- IT 1306-19-0, Cadmium oxide, uses 1309-48-4, Magnesium oxide, uses 1344-28-1, Aluminum oxide, uses 7631-86-9, Silica, uses 11105-01-4, Silicon oxynitride 12033-89-5, Silicon nitride, uses (barrier **layer**; for continuous fabrication of flexible OLEF)
- IT 12027-88-2, Yttrium silicate (Y_2SiO_5) 13709-90-5, Gadolinium borate (GdBO_3) (cerium-, terbium-codoped phosphor; environmentally-stable fiber-shaped organic electroluminescent devices employing polymer/inorg. barrier **multilayer**)
- IT 91-64-5, Coumarin (electroluminescent material, dyes, phosphor; environmentally-stable fiber-shaped organic electroluminescent devices employing polymer/inorg. barrier **multilayer**)
- IT 74-85-1D, Ethene, tetraaryl 120-12-7, Anthracene, uses 191-07-1, Coronene 198-55-0, Perylene 517-51-1, Rubrene 2085-33-8, Tris(8-quinolinolato)aluminum III 13963-57-0, Aluminum acetylacetonate 14405-43-7, Gallium, tris(2,4-pentanedionato- $\kappa\text{O}, \kappa\text{O}'$)-, (OC-6-11)- 14405-45-9, Indium acetylacetonate 25067-59-8, Poly (n-vinylcarbazole) 25067-59-8D, Poly (n-vinylcarbazole), derivs. and copolymers 25190-62-9, Poly(1,4-phenylene) 25190-62-9D, Poly(1,4-phenylene), derivs. and copolymers 27236-84-6, Tetraphenylbutadiene 28802-91-7, Phenylanthracene 95270-88-5D, Polyfluorene, derivs. and copolymers 153521-90-5, 1,3,5-Tris[n-(4-diphenylaminophenyl) phenylamino] benzene (electroluminescent material; environmentally-stable fiber-shaped organic electroluminescent devices employing polymer/inorg. barrier **multilayer**)
- IT 99533-22-9, Calcium magnesium chloride silicate ($\text{Ca}_8\text{MgCl}_2(\text{SiO}_4)_4$) (europium, manganese-codoped phosphor; environmentally-stable fiber-shaped organic electroluminescent devices employing polymer/inorg. barrier **multilayer**)
- IT 1314-36-9, Yttrium oxide (Y_2O_3), uses (europium-, bismuth-codoped phosphor; environmentally-stable fiber-shaped organic electroluminescent devices employing polymer/inorg. barrier **multilayer**)
- IT 13812-81-2, Strontium pyrophosphate ($\text{Sr}_2\text{P}_2\text{O}_7$) (europium-, manganese-codoped phosphor; environmentally-stable fiber-shaped organic electroluminescent devices employing polymer/inorg. barrier **multilayer**)
- IT 55134-50-4, Aluminum barium magnesium oxide ($\text{Al}_{16}\text{BaMg}_{20}\text{O}_{27}$) (europium-doped or europium-, manganese-codoped phosphor; environmentally-stable fiber-shaped organic electroluminescent devices employing polymer/inorg. barrier **multilayer**)
- IT 20644-06-8, Magnesium strontium pyrophosphate (MgSrP_2O_7) 494201-99-9, Gadolinium vanadium yttrium borate oxide ($(\text{Gd}, \text{Y})\text{VO}-1(\text{BO}_3)_0-101-4$) 533920-59-1, Strontium chloride phosphate ($\text{Sr}_5\text{Cl}_{12}(\text{PO}_4)_{10}$) (europium-doped phosphor; environmentally-stable fiber-shaped organic electroluminescent devices employing polymer/inorg. barrier **multilayer**)
- IT 7429-90-5, Aluminum, uses 7429-90-5D, Aluminum, alloy 7440-22-4, Silver, uses 7440-22-4D, Silver, alloy (first **conducting** material, barrier **layer**; environmentally-stable fiber-shaped organic electroluminescent devices employing polymer/inorg. barrier **multilayer**)
- IT 7440-45-1, Cerium, uses (first conducting material, phosphor dopant; environmentally-stable

- fiber-shaped organic electroluminescent devices employing polymer/inorg. barrier **multilayer**)
- IT 7439-91-0, Lanthanum, uses 7439-91-0D, Lanthanum, alloy 7439-93-2, Lithium, uses 7439-93-2D, Lithium, alloy 7439-95-4, Magnesium, uses 7439-95-4D, Magnesium, alloy 7440-09-7, Potassium, uses 7440-09-7D, Potassium, alloy 7440-23-5, Sodium, uses 7440-23-5D, Sodium, alloy 7440-24-6, Strontium, uses 7440-24-6D, Strontium, alloy 7440-31-5, Tin, uses 7440-31-5D, Tin, alloy 7440-39-3, Barium, uses 7440-39-3D, Barium, alloy 7440-45-1D, Cerium, alloy 7440-66-6, Zinc, uses 7440-66-6D, Zinc, alloy 7440-67-7, Zirconium, uses 7440-67-7D, Zirconium, alloy 7440-70-2, Calcium, uses 7440-70-2D, Calcium, alloy 7440-74-6, Indium, uses 7440-74-6D, Indium, alloy
(first conducting material; environmentally-stable fiber-shaped organic electroluminescent devices employing polymer/inorg. barrier **multilayer**)
- IT 12159-91-0, Germanium magnesium fluoride oxide (Ge₂Mg₈F₂₀Il)
(manganese-doped phosphor; environmentally-stable fiber-shaped organic electroluminescent devices employing polymer/inorg. barrier **multilayer**)
- IT 7439-96-5, Manganese, uses 7440-27-9, Terbium, uses 7440-53-1, Europium, uses 7440-69-9, Bismuth, uses
(phosphor dopant; environmentally-stable fiber-shaped organic electroluminescent devices employing polymer/inorg. barrier **multilayer**)
- IT 198-55-0D, Perylene, derivs. 33941-07-0D, Pyran, derivs. 60475-00-5D, Thiopyran, derivs. 73467-76-2D, Benzopyrene, derivs. 132615-42-0, Aluminum cerium yttrium oxide (Al₅(Ce,Y)₃O₁₂) 352033-92-2 352033-93-3 494201-96-6, Aluminum cerium gadolinium yttrium oxide (Al₅(Ce,Gd,Y)₃O₁₂) 494201-97-7, Aluminum cerium gallium yttrium oxide ((Al,Ga)₅(Ce,Y)₃O₁₂)
(phosphor; environmentally-stable fiber-shaped organic electroluminescent devices employing polymer/inorg. barrier **multilayer**)
- IT 1312-43-2, Indium oxide 1314-13-2, Zinc oxide, uses 1332-29-2, Tin oxide 50926-11-9, Indium tin oxide
(second **conducting** material, barrier **layer**;
environmentally-stable fiber-shaped organic electroluminescent devices employing polymer/inorg. barrier **multilayer**)
- IT 117944-65-7, Indium zinc oxide
(second conducting material; environmentally-stable fiber-shaped organic electroluminescent devices employing polymer/inorg. barrier **multilayer**)
- IT 55070-88-7, Aluminum cerium magnesium oxide (Al₁₁CeMg₉O₁₉)
(terbium-doped phosphor; environmentally-stable fiber-shaped organic electroluminescent devices employing polymer/inorg. barrier **multilayer**)

REFERENCE COUNT: 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L44 ANSWER 36 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2003:377210 HCAPLUS Full-text

DOCUMENT NUMBER: 138:377320

TITLE: Organic thin **film** transistor with polymeric interface

INVENTOR(S): Kelley, Tommie W.; Boardman, Larry D.; Dunbar, Timothy D.; Jones, Todd D.; Muyres, Dawn V.; Pellerite, Mark J.; Smith, Terrance P.

PATENT ASSIGNEE(S): 3M Innovative Properties Company, USA

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(FILE 'HOME' ENTERED AT 11:44:48 ON 02 MAY 2007)

FILE 'HCAPLUS' ENTERED AT 11:44:54 ON 02 MAY 2007

E WO2004-GB04973/PRN,PN,AP

L1 1 SEA ABB=ON PLU=ON (WO2004-GB4973/PRN OR WO2004-GB4973/AP)
SEL RN

FILE 'REGISTRY' ENTERED AT 11:45:23 ON 02 MAY 2007

L2 24 SEA ABB=ON PLU=ON (143746-71-8/BI OR 143746-72-9/BI OR
160485-42-7/BI OR 161747-14-4/BI OR 25445-42-5/BI OR
317809-68-0/BI OR 373596-08-8/BI OR 373596-09-9/BI OR
398128-81-9/BI OR 6006-83-3/BI OR 607387-98-4/BI OR
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854519-97-4/BI OR 854519-98-5/BI OR 854519-99-6/BI OR
854520-00-6/BI)

L3 STR

L4 50 SEA SSS SAM L3

L5 6 SEA ABB=ON PLU=ON L4 AND 3/NR

L6 STR L3

L7 50 SEA SSS SAM L6

L8 5 SEA ABB=ON PLU=ON L7 AND 3/NR

L9 126358 SEA ABB=ON PLU=ON 2508.17/RID

L10 STR

L11 50 SEA SSS SAM L10

L12 STR L10

L13 50 SEA SSS SAM L12

L14 25303 SEA ABB=ON PLU=ON 5391.6/RID

L15 STR

L16 1 SEA SSS SAM L15

L17 109 SEA ABB=ON PLU=ON 10645.1/RID

L18 STR

L19 27 SEA SSS SAM L18

L20 STR L18

L21 5 SEA SSS SAM L20

L22 81 SEA ABB=ON PLU=ON 11987.1/RID

FILE 'HCAPLUS' ENTERED AT 11:52:40 ON 02 MAY 2007

L23 106390 SEA ABB=ON PLU=ON L9

L24 71012 SEA ABB=ON PLU=ON L14

L25 287 SEA ABB=ON PLU=ON L17

L26 145 SEA ABB=ON PLU=ON L22

L27 42 SEA ABB=ON PLU=ON (L25 OR L26) AND ELECTRIC?/SC,SX

L28 4243 SEA ABB=ON PLU=ON (L23 OR L24) AND ELECTRIC?/SC,SX

L29 859 SEA ABB=ON PLU=ON L28 AND (SEMICONDUCT? OR SEMI(A) CONDUCT
?)

L30 288 SEA ABB=ON PLU=ON L29 AND DEV/RL

L31 15 SEA ABB=ON PLU=ON L27 AND (SEMICONDUCT? OR SEMI(A) CONDUCT
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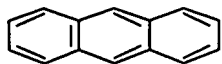
L32 226 SEA ABB=ON PLU=ON L30 AND (LAYER? OR FILM? OR BILAYER?
OR SHEET? OR THINLAYER? OR LAMIN? OR OVERLAY? OR OVERLAID?
OR MULTILAYER?)

L33 127 SEA ABB=ON PLU=ON L32 AND (1840-2003)/PRY,AY,PY
E SEMICONDUCTOR FILMS/CT

L34 7472 SEA ABB=ON PLU=ON "SEMICONDUCTOR FILMS"+PFT,NT,NEW,OLD/CT

SOURCE: PCT Int. Appl., 32 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003041185	A2	20030515	WO 2002-US33872	20021023
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WO 2003041185	A3	20031106		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2003102471	A1	20030605	US 2001-12654	20011105
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US 6946676	B2	20050920		
AU 2002337959	A1	20030519	AU 2002-337959	20021023
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EP 1442484	A2	20040804	EP 2002-773864	20021023
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JP 2005509298	T	20050407	JP 2003-543117	20021023
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US 2006011909	A1	20060119	US 2005-227547	20050915
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PRIORITY APPLN. INFO.:			US 2001-12654	A 20011105
<--				
			WO 2002-US33872	W 20021023
<--				
ED	Entered STN: 16 May 2003			
AB	Provided is an organic thin film transistor with improved carrier mobility and low cost fabrication comprising a polymeric layer interposed between a gate dielec. and an organic semiconductor layer . Various homopolymers, copolymers, and functional copolymers are claimed for use in the polymeric layer . An integrated circuit comprising a multiplicity of thin film transistors and methods of making a thin film transistor are also provided. The organic thin film transistors of the invention typically exhibit improvement in one or more transistor properties.			
IT	120-12-7, Anthracene, processes (organic thin film transistor with polymeric interface between gates and organic semiconductor films)			
RN	120-12-7 HCAPLUS			
CN	Anthracene (CA INDEX NAME)			



IC ICM H01L051-20
 CC 76-3 (**Electric** Phenomena)
 Section cross-reference(s): 38
 IT Polymers, processes
 (aromatic; organic thin **film** transistor with polymeric interface between gates and organic **semiconductor films**)
 IT Integrated circuits
 Semiconductor films
 Thin **film** transistors
 (organic thin **film** transistor with polymeric interface between gates and organic **semiconductor films**)
 IT Fullerenes
 Polyacenes
 (organic thin **film** transistor with polymeric interface between gates and organic **semiconductor films**)
 IT Polymers, properties
 (organic thin **film** transistor with polymeric interface between gates and organic **semiconductor films**)
 IT Conducting polymers
 (polythiophenes, oligomers; organic thin **film** transistor with polymeric interface between gates and organic **semiconductor films**)
 IT Coating process
 (spin; organic thin **film** transistor with polymeric interface between gates and organic **semiconductor films**)
 IT 74-86-2D, Acetylene, derivs. 13177-38-3, Cyclopentadienone
 (organic thin **film** transistor with polymeric interface between gates and organic **semiconductor films**)
 IT 109-27-3, Tetracene **120-12-7**, Anthracene, processes
 135-48-8, Pentacene 135-48-8D, Pentacene, derivs. 198-55-0, Perylene 574-93-6, Phthalocyanine 9003-17-2, Polybutadiene 9003-20-7, Polyvinyl acetate 9003-53-6, Polystyrene 9011-14-7, PMMA 9042-43-7, Polyvinyl naphthalene 14916-87-1 25036-01-5, Polyacenaphthylene 25038-76-0, Polynorbornene 25067-06-5, Poly(1-hexene) 25722-33-2, Parylene 88493-55-4, Sexithiophene 95270-88-5, Polyfluorene
 (organic thin **film** transistor with polymeric interface between gates and organic **semiconductor films**)
 IT 26949-20-2P, Styrene-3-methacryloxypropyltrimethoxysilane copolymer
 36785-89-4P, Styrene-3-mercaptopropyltrimethoxysilane copolymer
 76701-84-3P, Styrene-vinylphosphonic acid copolymer 252338-38-8P, 5-Hexylnorbornene-5-(triethoxysilyl)norbornene copolymer
 (organic thin **film** transistor with polymeric interface between gates and organic **semiconductor films**)

L44 ANSWER 37 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2003:262124 HCAPLUS Full-text
 DOCUMENT NUMBER: 138:271405
 TITLE: Preparation of dialkylpentacenes as **semiconductor** materials
 INVENTOR(S): Smith, Terrance P.; Vogel, Dennis E.; Vogel, Kim M.
 PATENT ASSIGNEE(S): 3M Innovative Properties Company, USA
 SOURCE: PCT Int. Appl., 54 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

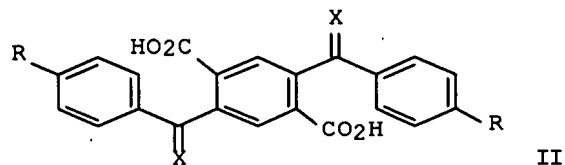
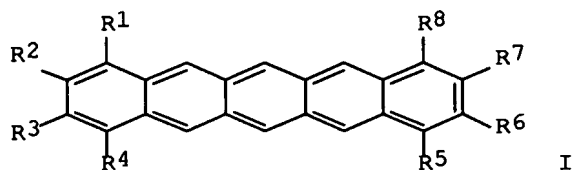
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003028125	A2	20030403	WO 2002-US30704	20020927
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WO 2003028125	A3	20030703		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
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			<--	
EP 1433211	A2	20040630	EP 2002-763754	20020927
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EP 1433211	B1	20060621		
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CN 1582506	A	20050216	CN 2002-822123	20020927
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JP 2005504811	T	20050217	JP 2003-531543	20020927
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AT 331304	T	20060715	AT 2002-763754	20020927
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PRIORITY APPLN. INFO.:			US 2001-966961	A 20010927
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			WO 2002-US30704	W 20020927
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OTHER SOURCE(S): MARPAT 138:271405

ED Entered STN: 04 Apr 2003

GI



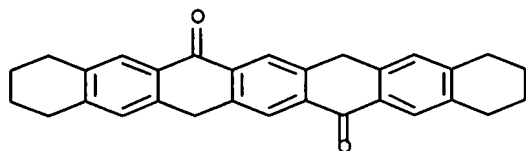
AB Substituted pentacene compds. I (R1-R8 = independently H, halo, electron-donating group) are prepared and tested for use in organic thin film transistors. The prepared pentacene derivs. exhibit charge-carrier mobilities comparable to pentacene and exhibit more reproducible performance characteristics than those of pentacene-based devices. Exposure to common organic solvents, such as isopropanol, does not significantly alter the electronic properties of the devices, and many of the prepared pentacene derivs. are more soluble than pentacene in organic solvents. Thus, double Friedel-Crafts arylation of pyromellitic anhydride with hexylbenzene in the presence of AlCl₃ and diisopropylethylamine in 1,2-dichloroethane gave adduct II (R = n-hexyl, X = O), which underwent catalytic reduction with H₂ and 5% Pd/C to give II (R = n-hexyl, X = H₂) (III). Cyclization of III with CF₃CO₂H gave the corresponding dihydropentacenedione, which underwent reduction with NaBH₄ and dehydration with AcOH and HCl to give 2,9-dihexylpentacene (I; R₁ = R₃ = R₄ = R₅ = R₇ = R₈ = H; R₂ = R₆ = n-hexyl).

IT 503603-50-7P 503603-51-8P

(preparation of dialkylpentacenes as **semiconductor** materials)

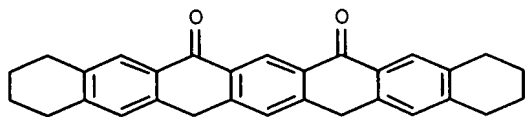
RN 503603-50-7 HCAPLUS

CN 6,15-Heptacenedione, 1,2,3,4,8,10,11,12,13,17-decahydro- (9CI) (CA INDEX NAME)



RN 503603-51-8 HCAPLUS

CN 6,8(1H,11H)-Heptacenedione, 2,3,4,10,12,13,15,17-octahydro- (9CI) (CA INDEX NAME)

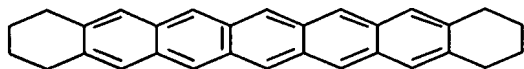


IT 503603-30-3P

(preparation of dialkylpentacenes as **semiconductor** materials)

RN 503603-30-3 HCAPLUS

CN Heptacene, 1,2,3,4,10,11,12,13-octahydro- (9CI) (CA INDEX NAME)



IC ICM H01L051-30

CC 25-28 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)

Section cross-reference(s): 76

- ST org thin film transistor material dialkylpentacene prepn; pentacene dialkyl prepn soly **semiconductor** material; soly dialkylpentacene prepn **semiconductor** material
- IT Thin film transistors
(organic; preparation of dialkylpentacenes as **semiconductor** materials)
- IT Solubility
(solubility of dialkylpentacenes for use in **semiconductor** materials)
- IT 503603-71-2 503603-72-3 503603-73-4 503603-74-5 503603-75-6
503603-76-7
(preparation of dialkylpentacenes as **semiconductor** materials)
- IT 503603-35-8P
(preparation of dialkylpentacenes as **semiconductor** materials)
- IT 503603-27-8P 503603-28-9P 503603-29-0P 503603-33-6P
503603-36-9P
(preparation of dialkylpentacenes as **semiconductor** materials)
- IT 503603-31-4P 503603-34-7P
(preparation of dialkylpentacenes as **semiconductor** materials)
- IT 71-43-2, Benzene, reactions 89-32-7, Pyromellitic dianhydride
106-42-3, p-Xylene, reactions 119-64-2, 1,2,3,4-Tetrahydronaphthalene 123-01-3, Dodecylbenzene 135-98-8,
sec-Butylbenzene 1077-16-3, Hexylbenzene 17180-41-5 36727-29-4,
3,5,5-Trimethylhexanoyl chloride 52497-39-9 503603-66-5
(preparation of dialkylpentacenes as **semiconductor** materials)
- IT 5617-39-0P 503603-37-0P 503603-38-1P 503603-39-2P 503603-40-5P
503603-41-6P 503603-42-7P 503603-43-8P 503603-44-9P
503603-45-0P 503603-46-1P 503603-47-2P 503603-48-3P
503603-49-4P **503603-50-7P 503603-51-8P**
503603-52-9P 503603-53-0P 503603-54-1P 503603-55-2P
503603-56-3P 503603-57-4P 503603-58-5P 503603-59-6P
503603-60-9P 503603-61-0P 503603-62-1P 503603-63-2P
503603-64-3P 503603-65-4P 503603-67-6P 503603-68-7P
503603-69-8P 503603-70-1P
(preparation of dialkylpentacenes as **semiconductor** materials)
- IT **503603-30-3P** 503603-32-5P
(preparation of dialkylpentacenes as **semiconductor** materials)

L44 ANSWER 38 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2003:255085 HCAPLUS Full-text

DOCUMENT NUMBER: 138:246983

TITLE: Organic **semiconductor** filmpreparation and use in field effect transistors
INVENTOR(S): Chowdhuri, Abhijit R.; Zhang, Jie; Gamota, Daniel R.

PATENT ASSIGNEE(S): Motorola, Inc., USA

SOURCE: U.S., 8 pp.

CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 6541300	B1	20030401	US 2002-58704	20020128
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WO 2003065409	A2	20030807	WO 2002-US41765	20021231
			<--	

WO 2003065409 A3 20031016
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH,
CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD,
GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ,
LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ,
NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ,
TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ,
BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,
EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR,
BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
EP 1472718 A2 20041103 EP 2002-794455 20021231
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R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,
PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK
CN 1618135 A 20050518 CN 2002-827690 20021231
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PRIORITY APPLN. INFO.:

US 2002-58704 A 20020128

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WO 2002-US41765 W 20021231

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ED Entered STN: 03 Apr 2003

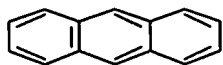
AB The present invention is directed to **semiconductor films** and a process for their preparation. The **semiconductor** organic material is blended with a multicomponent solvent blend having a combined polarity within a defined range. The blend of **semiconductor** organic material and multicomponent solvent blend is effective for providing a highly ordered **semiconductor film** having an improved mobility and for providing a device having improved on/off ratio characteristics. The blend is deposited on a receiving material to provide a continuous highly ordered **film** having greater periodicity than **films** produced with a single solvent/**semiconducting** material blend under similar processing conditions.

IT **120-12-7D**, Anthracene, 2,3,6,7-Tetracarboxylic acid diimide
derivs.

(organic **semiconductor** material; organic **semiconductor**
film preparation and use in field effect transistors)

RN 120-12-7 HCAPLUS

CN Anthracene (CA INDEX NAME)



IC ICM H01L051-40

INCL 438099000; X25-7 4.0

CC 76-3 (Electric Phenomena)

ST org **semiconductor film** field effect transistor

IT Imides

(diimides, tetracarboxylic acids, organic **semiconductor**
material; organic **semiconductor film** preparation and
use in field effect transistors)

IT **Semiconductor** device fabrication**Semiconductor films**

(organic **semiconductor film** preparation and use in
field effect transistors)

IT Polyanilines

- (organic **semiconductor** material; organic **semiconductor** **film** preparation and use in field effect transistors)
- IT Field effect transistors
(organic; organic **semiconductor** **film** preparation and use in field effect transistors)
- IT Conducting polymers
(polythiophenes, organic **semiconductor** material; organic **semiconductor** **film** preparation and use in field effect transistors)
- IT Carboxylic acids, uses
(tetra, diimide-, organic **semiconductor** material; organic **semiconductor** **film** preparation and use in field effect transistors)
- IT 75-20-7, Calcium carbide 7631-99-4, Sodium nitrate, uses 7647-14-5, Sodium chloride, uses 7778-54-3, Calcium hypochlorite 12712-38-8, Potassium borate 13840-56-7, Sodium borate 16893-85-9, Sodium fluorosilicate
(multicomponent solvent blend containing; organic **semiconductor** **film** preparation and use in field effect transistors)
- IT 110134-47-9, Poly (3-hexylthiophene-2,5-diyl)
(organic **film** solvent; organic **semiconductor** **film** preparation and use in field effect transistors)
- IT 56-23-5, Carbontetrachloride, processes 64-17-5, Ethanol, processes 67-56-1, Methanol, processes 67-63-0, 2-Propanol, processes 67-64-1, Acetone, processes 67-66-3, Chloroform, processes 71-23-8, 1-Propanol, processes 71-36-3, 1-Butanol, processes 71-43-2, Benzene, processes 75-09-2, Methylene chloride, processes 75-65-0, t-Butanol, processes 78-93-3, 2-Butanone, processes 108-88-3, Toluene, processes 109-99-9, Tetrahydrofuran, processes 1330-20-7, Xylene, processes
(organic **film** solvent; organic **semiconductor** **film** preparation and use in field effect transistors)
- IT 91-20-3D, Naphthalene, dithiophene derivs. 110-02-1D, Thiophene, anthracene derivs. 110-02-1D, Thiophene, naphthalene derivs. 120-12-7D, Anthracene, 2,3,6,7-Tetracarboxylic acid diimide derivs. 120-12-7D, Anthracene, dithiophene derivs. 135-48-8, Pentacene 574-93-6D, Phthalocyanine, derivs. 66280-99-7, Poly(thienylenevinylene) 96638-49-2, Poly(phenylenevinylene)
(organic **semiconductor** material; organic **semiconductor** **film** preparation and use in field effect transistors)
- REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L44 ANSWER 39 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2003:154660 HCAPLUS Full-text

DOCUMENT NUMBER: 138:197055

TITLE: Organic **semiconductor** components with pentacene-coated transistor **films**

INVENTOR(S): Minakata, Takashi

PATENT ASSIGNEE(S): Asahi Kasei Kabushiki Kaisha, Japan

SOURCE: PCT Int. Appl., 67 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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WO 2003016599 A1 20030227 WO 2002-JP8070 20020807
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 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
 AU 2002327354 A1 20030303 AU 2002-327354 20020807
 <--
 EP 1416069 A1 20040506 EP 2002-760569 20020807
 <--
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK
 CN 1541288 A 20041027 CN 2002-815611 20020807
 <--
 US 2005258417 A1 20051124 US 2004-486276 20040209
 <--
 US 7061010 B2 20060613
 PRIORITY APPLN. INFO.: JP 2001-242808 A 20010809
 <--
 WO 2002-JP8070 W 20020807
 <--

OTHER SOURCE(S): MARPAT 138:197055

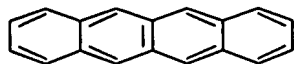
ED Entered STN: 28 Feb 2003

AB An organic **semiconductor** thin **film** suitably employed in electronics, photonics, or bioelectronics and a method for forming the thin **films** thereof. An organic **semiconductor** solution as the material in formation of the organic **semiconductor** thin **film**, and an organic **semiconductor** component employing the organic **semiconductor** thin **film** are also provided. The transistor is obtained by forming a gate electrode, an insulator **layer**, a source electrode, and drain electrodes sequentially on a glass substrate and then applying o-dichlorobenzene solution of pentacene (0.05% by mass) and drying thereby forming an organic **semiconductor** thin **film**. Since the organic **semiconductor** thin **film** can be formed easily at a low cost and has substantially no defect, a transistor having excellent electronic characteristics can be provided.

IT 92-24-0, Naphthacene 258-31-1, Hexacene
 (semiconductor thin film; organic
 semiconductor components prepared by coating with
 pentacene-coated transistor **films**)

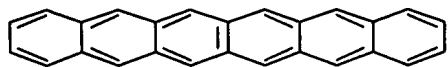
RN 92-24-0 HCAPLUS

CN Naphthacene (CA INDEX NAME)



RN 258-31-1 HCAPLUS

CN Hexacene (CA INDEX NAME)



- IC ICM C30B029-54
ICS C30B007-06; H01L029-786; H01L051-00
- CC 76-3 (**Electric** Phenomena)
Section cross-reference(s): 25
- ST pentacene soln coating drying org **semiconductor** film transistor
- IT Thin **film** transistors
(by coating organic **semiconductor** thin **film**; organic **semiconductor** components prepared by coating with pentacene-coated transistor **films**)
- IT Drying
(coated thin **film**; organic **semiconductor** components prepared by coating with pentacene-coated transistor **films**)
- IT Polyacenes
(for **semiconductor** thin **film**; organic **semiconductor** components prepared by coating with pentacene-coated transistor **films**)
- IT Electric conductivity
Semiconductor materials
X-ray diffractometry
(organic **semiconductor** components prepared by coating with pentacene-coated transistor **films**)
- IT Coating materials
(pentacene, for **semiconductor** thin **film**; organic **semiconductor** components prepared by coating with pentacene-coated transistor **films**)
- IT Polyesters, properties
(**semiconductor** thin **film**; organic **semiconductor** components prepared by coating with pentacene-coated transistor **films**)
- IT 135-48-8P, Pentacene
(organic **semiconductor** thin **film**; organic **semiconductor** components prepared by coating with pentacene-coated transistor **films**)
- IT 25038-59-9P, Polyethylene terephthalate, properties 76727-11-2P,
6,13-Diphenylpentacene 317809-68-0P, 6,13-Bis(trimethylsilylethynyl)pentacene 373596-08-8P,
6,13-Bis(triisopropylsilylethynyl)pentacene 499138-96-4P,
2,3,9,10-Tetramethylpentacene 499138-97-5P 499138-98-6P
499138-99-7P 499139-00-3P 499139-01-4P 499139-02-5P
(**semiconductor** thin **film**; organic **semiconductor** components prepared by coating with pentacene-coated transistor **films**)
- IT 92-24-0, Naphthacene 258-31-1, Hexacene
(**semiconductor** thin **film**; organic **semiconductor** components prepared by coating with pentacene-coated transistor **films**)
- REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ACCESSION NUMBER: 2003:77368 HCAPLUS Full-text
 DOCUMENT NUMBER: 138:144826
 TITLE: Methods for producing electroluminescent devices
 by screen printing
 INVENTOR(S): Epstein, Arthur J.; Wang, Yunzhang Z.
 PATENT ASSIGNEE(S): The Ohio State University, USA
 SOURCE: U.S. Pat. Appl. Publ., 10 pp.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2003022020	A1	20030130	US 2002-196523	20020716
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CA 2454743	A1	20030213	CA 2002-2454743	20020701
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WO 2003012885	A1	20030213	WO 2002-US20965	20020701
			<--	
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2002316513	A1	20030217	AU 2002-316513	20020701
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EP 1419536	A1	20040519	EP 2002-746822	20020701
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R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
JP 2005526353	T	20050902	JP 2003-517958	20020701
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PRIORITY APPLN. INFO.:			US 2001-308276P	P 20010727
			<--	
			WO 2002-US20965	W 20020701
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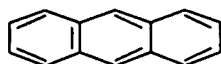
ED Entered STN: 31 Jan 2003

AB Methods for preparing a **layered** composite capable of forming a light-emitting device are discussed which entail obtaining a substrate material comprising a **layer** of an electrode material; forming on the substrate ≥ 1 emitting **layer** capable of functioning as a light-emitting **layer** in a light-emitting device; and applying a conductive paste material to the emitting **layer**, the **conductive** paste material comprising a **layer** of an electrode material. **Layered** composites capable of forming a light-emitting device as described above are also discussed. The conductive paste material may be applied by a technique selected from painting, spraying, and screen-printing.

IT 120-12-7, Anthracene, uses
 (light-emitting **layer**; methods for producing polymer electroluminescent devices by applying conductive paste material using methods such as screen printing)

RN 120-12-7 HCAPLUS

CN Anthracene (CA INDEX NAME)



- IC ICM H05B033-00
ICS B05D005-12
- INCL 428690000; 427402000; 313504000; 313506000; 428917000; 427066000
- CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 38, 76
- ST electroluminescent device screen printing **layered** composite
conductive paste
- IT Polyanilines
(buffer **layer**; methods for producing polymer electroluminescent devices by applying conductive paste material using methods such as screen printing)
- IT Amines, uses
(diamines, aromatic, electron-transporting **layer**; methods for producing polymer electroluminescent devices by applying conductive paste material using methods such as screen printing)
- IT Polyoxadiazoles
(electron-transporting **layer**; methods for producing polymer electroluminescent devices by applying conductive paste material using methods such as screen printing)
- IT Conducting polymers
(polypyrroles, buffer **layer**; methods for producing polymer electroluminescent devices by applying conductive paste material using methods such as screen printing)
- IT Conducting polymers
(polythiophenes, buffer **layer**; methods for producing polymer electroluminescent devices by applying conductive paste material using methods such as screen printing)
- IT Conducting polymers
(**semiconducting** and; methods for producing polymer electroluminescent devices by applying conductive paste material using methods such as screen printing)
- IT 15082-28-7
(electron-transporting **layer**; methods for producing polymer electroluminescent devices by applying conductive paste material using methods such as screen printing)
- IT **120-12-7**, Anthracene, uses 220694-90-6
(light-emitting **layer**; methods for producing polymer electroluminescent devices by applying conductive paste material using methods such as screen printing)
- IT 25013-01-8, Poly(pyridine)
(light-emitting or electron-transporting **layer**; methods for producing polymer electroluminescent devices by applying conductive paste material using methods such as screen printing)
- IT 2085-33-8, Tris(8-quinolinolato)aluminum
(light-emitting or electron-transporting **layer**; methods for producing polymer electroluminescent devices by applying conductive paste material using methods such as screen printing)
- IT 25067-59-8, Poly(vinylcarbazole)
(light-emitting or hole-transporting **layer**; methods for producing polymer electroluminescent devices by applying conductive paste material using methods such as screen printing)

L44 ANSWER 41 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2002:978278 HCAPLUS Full-text
 DOCUMENT NUMBER: 138:64898
 TITLE: Organic polarizable gate transistor apparatus and
 method of fabrication
 INVENTOR(S): Dodabalapur, Ananth; Katz, Howard E.; Sarpeshkar,
 Rahul
 PATENT ASSIGNEE(S): Lucent Technologies Inc., USA
 SOURCE: U.S. Pat. Appl. Publ., 15 pp.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO. -----	KIND ---	DATE -----	APPLICATION NO. -----	DATE -----
US 2002195644	A1	20021226	US 2001-877844	20010608
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US 6870180	B2	20050322		
JP 2003046006	A	20030214	JP 2002-161699	20020603
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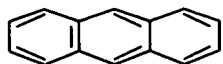
ED Entered STN: 29 Dec 2002

AB An apparatus having a circuit coupled to the gate contact of a field effect transistor wherein the transistor's gate includes a dielec. **layer** of which at least a portion is an organic dielec. The circuit is configured to produce one or more storage voltage pulses that cause charge to be stored in the gate. The field effect transistor has a **semiconductor layer** with a **conductive** path whose conductivity changes for a given V_g in response to storing the charge. The circuit may produce one or more dissipation voltage pulses having a voltage of opposite sign to the one or more storage pulses, that cause dissipation of charge stored in the gate. Further disclosed are a memory and a method of electronically storing and reading information, both using the organic-based polarizable gate transistor apparatus

IT 120-12-7D, Anthracene, polymer derivs.
 (methacrylates; organic polarizable gate transistor apparatus and method of fabrication)

RN 120-12-7 HCAPLUS

CN Anthracene (CA INDEX NAME)



IC ICM H01L029-76

ICS H01L029-788

INCL 257314000; 257315000; 257317000; 257322000

CC 76-3 (**Electric** Phenomena)

Section cross-reference(s): 38

IT Ceramic composites

Fiber-reinforced composites

Field effect transistors

Gate contacts

Semiconductor memory devices
 (organic polarizable gate transistor apparatus and method of fabrication)
 IT Dielectric **films**
 (organic; organic polarizable gate transistor apparatus and method of
 fabrication)
 IT **120-12-7D**, Anthracene, polymer derivs.
 (methacrylates; organic polarizable gate transistor apparatus and method of
 fabrication)
 REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR
 THIS RECORD. ALL CITATIONS AVAILABLE IN THE
 RE FORMAT

L44 ANSWER 42 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2002:778550 HCAPLUS Full-text
 DOCUMENT NUMBER: 137:287334
 TITLE: Flat electric-circuit resistors from copper foil
 precoated with organic **semiconductor**
 film
 INVENTOR(S): Pankow, Joel W.; Centanni, Michael A.
 PATENT ASSIGNEE(S): Ga-Tek Inc., USA
 SOURCE: U.S. Pat. Appl. Publ., 6 pp.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 2002146556	A1	20021010	US 2001-825803	20010404
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PRIORITY APPLN. INFO.:			US 2001-825803	20010404
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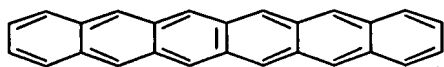
ED Entered STN: 11 Oct 2002

AB The flat resistors are manufactured from Cu foil precoated on one side with a
 film of organic mol. **semiconductor** nominally 3-1000 Å thick. The
semiconductor is typically based on metal-organic complexes with Pt, Ir, or
 Rh, aromatic hydrocarbons, or oriented graphite films. The **semiconductor** is
 optionally based on polymer films having charge-transfer compds.

IT **258-31-1**, Hexacene
 (film, resistor foil with; flat elec.-circuit resistors from copper
 foil precoated with hydrocarbon film)

RN 258-31-1 HCAPLUS

CN Hexacene (CA INDEX NAME)



IC ICM B32B015-08

INCL 428336000

CC 76-2 (**Electric** Phenomena)

Section cross-reference(s): 38, 56

ST elec circuit flat resistor metal foil coating **semiconductor**
 film

IT Resistors

- (coated foil for; flat elec.-circuit resistors from copper foil precoated with organic **semiconductor** film)
- IT Metallophthalocyanines
(films, resistor foil with; flat elec.-circuit resistors from copper foil precoated with organic **semiconductor** film)
- IT **Semiconductor** materials
(organic films, resistor foil with; flat elec.-circuit resistors from copper foil precoated with organic **semiconductor** film)
- IT Charge transfer complexes
(polymer films with, on resistor foil; flat elec.-circuit resistors from copper foil precoated with organic **semiconductor** film)
- IT 50-32-8, Benzopyrene, uses 81-31-2, Violanthrene 85-01-8, Phenanthrene, uses 91-20-3, Naphthalene, uses 92-24-0, Tetracene 120-12-7, Anthracene, uses 129-00-0, Pyrene, uses 135-48-8, Pentacene 190-26-1, Ovalene 191-07-1, Coronene 198-55-0, Perylene 217-59-4, Triphenylene 218-01-9, Chrysene 258-31-1, Hexacene
(film, resistor foil with; flat elec.-circuit resistors from copper foil precoated with hydrocarbon film)
- IT 574-93-6, Phthalocyanine
(film, resistor foil with; flat elec.-circuit resistors from copper foil precoated with organic **semiconductor** film)
- IT 7440-50-8, Copper, uses
(foil; flat elec.-circuit resistors from copper foil precoated with organic **semiconductor** film)

L44 ANSWER 43 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2002:427805 HCAPLUS Full-text

DOCUMENT NUMBER: 136:409169

TITLE: Flexible electrophoretic display with homogeneously formed electrophoretic microcapsule dispersion **layer**

INVENTOR(S): Ishida, Masaya; Kawai, Hideyuki; Miyashita, Satoru; Shimoda, Tatsuya

PATENT ASSIGNEE(S): Seiko Epson Corp., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2002162651	A	20020607	JP 2000-357515	20001124
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PRIORITY APPLN. INFO.:			JP 2000-357515	20001124
			<--	

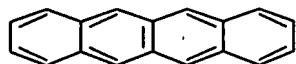
ED Entered STN: 07 Jun 2002

AB The invention relates to an electrophoretic display comprised of a transparent substrate, a transparent electrode **layer**, an electrophoretic microcapsule dispersion **layer**, and a **semiconductor** element **layer**, wherein the **semiconductor** element **layer** is made up of an organic **semiconductor** material. The electrophoretic microcapsule dispersion **layer** is formed by a roll coat method to achieve homogeneous dispersion.

IT 92-24-0, Tetracene 120-12-7, Anthracene, processes
(organic **semiconductor**; flexible electrophoretic display with homogeneously formed electrophoretic microcapsule dispersion **layer**)

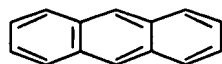
RN 92-24-0 HCAPLUS

CN Naphthacene (CA INDEX NAME)



RN 120-12-7 HCAPLUS

CN Anthracene (CA INDEX NAME)



- IC ICM G02F001-167
ICS G09F009-30; G09F009-37
- CC 74-13. (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 42, 76
- ST electrophoretic display microcapsule dispersion **layer** roll
coating org **semiconductor**
- IT Optical imaging devices
(electrophoretic; flexible electrophoretic display with
homogeneously formed electrophoretic microcapsule dispersion
layer)
- IT Microcapsules
(flexible electrophoretic display with homogeneously formed
electrophoretic microcapsule dispersion **layer**)
- IT Electrophoresis apparatus
(optical imaging; flexible electrophoretic display with
homogeneously formed electrophoretic microcapsule dispersion
layer)
- IT Coating process
(roller; flexible electrophoretic display with homogeneously formed
electrophoretic microcapsule dispersion **layer**)
- IT 92-24-0, Tetracene 120-12-7, Anthracene, processes
135-48-8, Pentacene
(organic **semiconductor**; flexible electrophoretic display
with homogeneously formed electrophoretic microcapsule dispersion
layer)
- IT 50926-11-9, ITO
(transparent electrode; flexible electrophoretic display with
homogeneously formed electrophoretic microcapsule dispersion
layer)

L44 ANSWER 44 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2002:185498 HCAPLUS Full-text

DOCUMENT NUMBER: 136:239990

TITLE: Integrated circuit having organic
semiconductor and anodized gate dielectricINVENTOR(S): Baude, Paul F.; Haase, Michael A.; Bench, Mike W.;
Grillo, Donald C.

PATENT ASSIGNEE(S): 3M Innovative Properties Company, USA
 SOURCE: PCT Int. Appl., 16 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002021613	A1	20020314	WO 2001-US925	20010112

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W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH,
 CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH,
 GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK,
 LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ,
 PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ,
 UA, UG, UZ, VN, YU, ZA, ZW

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH,
 CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE,
 TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

AU 2001027838	A5	20020322	AU 2001-27838	20010112
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PRIORITY APPLN. INFO.:	US 2000-655817	A	20000906
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WO 2001-US925	W	20010112
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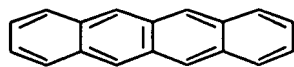
ED Entered STN: 15 Mar 2002

AB Disclosed is a method of making an integrated circuit comprising the steps of providing a substrate; providing a plurality of discrete regions of gate electrode material elec. connected by elec. conductive paths on the substrate; forming an elec. insulating **layer** on the gate electrode material by anodic oxidation; disconnecting a conductive path to at least one discrete region of gate electrode material; providing a source electrode and a drain electrode adjacent to the insulating **layer** on the gate electrode material in the discrete region, the source and drain electrodes having a space between them; and providing an **organic semiconductor layer** adjacent to the insulating **layer** and in elec. contact with the source and drain electrodes. The substrate is preferably flexible and polymeric.

IT 92-24-0, Tetracene 120-12-7, Anthracene, uses
 (integrated circuit having organic **semiconductor** and
 anodized gate dielec.)

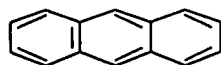
RN 92-24-0 HCAPLUS

CN Naphthacene (CA INDEX NAME)



RN 120-12-7 HCAPLUS

CN Anthracene (CA INDEX NAME)



IC ICM H01L051-20
 CC 76-3 (**Electric** Phenomena)
 ST org **semiconductor** anodized gate dielec integrated circuits
 IT Electric insulators
 Gate contacts
 Integrated circuits
 Interconnections, electric
 Semiconductor device fabrication
 Semiconductor materials
 (integrated circuit having organic **semiconductor** and
 anodized gate dielec.)
 IT Polyesters, uses
 Polyimides, uses
 (integrated circuit having organic **semiconductor** and
 anodized gate dielec.)
 IT 91-20-3, Naphthalene, uses 92-24-0, Tetracene 110-02-1,
 Thiophene 120-12-7, Anthracene, uses 135-48-8, Pentacene
 147-14-8, Copper phthalocyanine 1518-16-7, Tetracyanoquinodimethane
 7429-90-5, Aluminum, uses 7439-95-4, Magnesium, uses 7440-03-1,
 Niobium, uses 7440-25-7, Tantalum, uses 7440-32-6, Titanium, uses
 7440-66-6, Zinc, uses
 (integrated circuit having organic **semiconductor** and
 anodized gate dielec.)

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR
 THIS RECORD. ALL CITATIONS AVAILABLE IN THE
 RE FORMAT

L44 ANSWER 45 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2001:930103 HCAPLUS Full-text

DOCUMENT NUMBER: 136:46001

TITLE: Method for crystal growth from melts and
 functional devices of the **semiconductive**
 crystals or **semiconductors** prepared from
 the crystals

INVENTOR(S): Miyahara, Tomoko; Horiuchi, Kazunaga; Okada,
 Okimasa; Maruyama, Tatsuya; Shimizu, Masaaki

PATENT ASSIGNEE(S): Fuji Xerox Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2001353402	A	20011225	JP 2000-178011	20000614
			<--	
PRIORITY APPLN. INFO.:			JP 2000-178011	20000614
			<--	

ED Entered STN: 26 Dec 2001

AB Raw materials for the crystals are dissolved in a solvent, which is solid at
 room temperature and having lower m.p. than the target crystal, by heating.

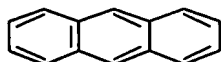
The initial crystal growth is carried out using a melt containing the crystal raw material of a supersatd. condition. Then the concentration of the raw material in the melt is decreased to an amount below saturation and then increased to a amount for supersatn. for re-growing of the crystal. The final process, of increasing and decreasing the raw material concentration may be carried out repeatedly. Devices comprising the **semiconductive** crystal or a **semiconductor layer** formed from the crystal and equipped with multiple nos. of electrodes are also claimed. The process is suitable for manufacture of devices using polycyclic aromatic compound crystals.

IT 120-12-7, Anthracene, uses

(solvent in melts; crystal growth of polycyclic aromatic compds., for **semiconductor** devices, from melts)

RN 120-12-7 HCAPLUS

CN Anthracene (CA INDEX NAME)



IC ICM B01D009-02

ICS B01D009-02; C09B067-48; C09B067-50; C30B009-08; C30B029-54;
C07D487-22

CC 75-1 (Crystallography and Liquid Crystals)

Section cross-reference(s): 25, 26, 76

ST **semiconductor** device polycyclic arom compd crystal; crystal growth melt raw material concn control

IT Polycyclic compounds

(aromatic; crystal growth of polycyclic aromatic compds., for **semiconductor** devices, from melts)

IT Crystal growth

Semiconductor devices

Semiconductor materials

Thin film transistors

(crystal growth of polycyclic aromatic compds., for **semiconductor** devices, from melts)

IT Aromatic compounds

(polycyclic; crystal growth of polycyclic aromatic compds., for **semiconductor** devices, from melts)

IT Vapor deposition process

(**semiconductor** wafer manufacture from crystals; crystal growth of polycyclic aromatic compds., for **semiconductor** devices, from melts)

IT 147-14-8, Copper phthalocyanine 2085-33-8, Tris(8-

hydroxyquinolato)aluminum 5521-31-3, N,N'-Dimethylperylene-3,4,9,10-bis(dicarboximide)

(crystal growth of polycyclic aromatic compds., for **semiconductor** devices, from melts)

IT 120-12-7, Anthracene, uses 129-00-0, Pyrene, uses

(solvent in melts; crystal growth of polycyclic aromatic compds., for **semiconductor** devices, from melts)

L44 ANSWER 46 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2001:546134 HCAPLUS Full-text

DOCUMENT NUMBER: 135:272675

TITLE: Nature of the Magnetic Interaction in Organic Radical Crystals. 5. Magnetic Interaction in Mixed

Radical Ion Crystals
 AUTHOR(S): Dietz, F.; Tyutyulkov, N.; Staneva, M.;
 Baumgarten, M.; Muellen, K.
 CORPORATE SOURCE: Wilhelm-Ostwald-Institut fuer Physikalische und
 Theoretische Chemie, Universitaet Leipzig,
 Leipzig, D-04109, Germany
 SOURCE: Journal of Physical Chemistry B (2001),
 105(33), 7972-7978
 CODEN: JPCBFK; ISSN: 1089-5647
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English

ED Entered STN: 29 Jul 2001

AB The nature and magnitude of the spin exchange interaction within the half-filled band of 1-dimensional stacks of mixed radical ion crystals (MRIC) consisting of two hydrocarbons H1 and H2 with different ionization potentials and electron affinities were studied theor. In a fully reduced or oxidized 1-dimensional crystal, each elementary unit is an anion radical or a cation radical: $(H1 \dots H2)^{\bullet-}$ or $-(H1 \dots H2)^{\bullet+}$. In contrast to organic radical cation (anion) crystals which consist of identical polycyclic hydrocarbons $-(H\delta \dots H\delta)^{\bullet+}$ or $-(H\delta \dots H\delta)^{\bullet-}$ with a metallic or **semiconducting** ground state, the ground state of some classes of MRICs is a magnetic one. The band theory of magnetic interaction in many electron π -systems is applied to calculate the different contributions of the effective Heisenberg exchange integral.

IT 363622-97-3

(nature of magnetic interaction in organic radical crystals and magnetic interaction in mixed radical ion crystals)

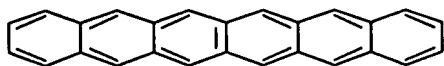
RN 363622-97-3 HCAPLUS

CN Hexacene, compd. with naphthalene (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 258-31-1

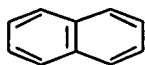
CMF C26 H16



CM 2

CRN 91-20-3

CMF C10 H8



CC 22-13 (Physical Organic Chemistry)

Section cross-reference(s): 76, 77

IT 91-20-3D, Naphthalene, 1:1 complex with naphthalene radical cation, properties 135-48-8D, Pentacene, 1:1 complex with pentacene radical ions 34483-84-6D, Pentacene radical anion, 1:1 complex with pentacene 34507-35-2D, Pentacene radical cation, 1:1 complex with pentacene 34512-27-1D, Naphthalene radical cation, 1:1 complex with naphthalene, properties 112797-83-8 112797-86-1 133700-13-7 363622-94-0 363622-95-1 363622-96-2 **363622-97-3**

(nature of magnetic interaction in organic radical crystals and magnetic interaction in mixed radical ion crystals)

REFERENCE COUNT: 43 THERE ARE 43 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L44 ANSWER 47 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2001:390344 HCAPLUS Full-text

DOCUMENT NUMBER: 135:13041

TITLE: **Semiconductor** devices with photosensitive polyimide **layers**

INVENTOR(S): Akimoto, Satoshi; Kakimoto, Masaaki

PATENT ASSIGNEE(S): Toppan Printing Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001147533	A	20010529	JP 1999-328360	19991118

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PRIORITY APPLN. INFO.:	JP 1999-328360	19991118
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ED Entered STN: 30 May 2001

AB The devices have elec. **conducting layers** and polyimide **layers** formed from compns. containing (A) polyimides having acetal bonds in main chains and (B) photo-decomposing acid generators. Preferable structural repeating unit for the polyimides is given in a Markush. The polyimide compns. are alkaline developable and low-temperature curable and **layers** having high dimensional accuracy are obtained.

IT **137308-86-2**

(photoacid generator; **semiconductor** devices with photosensitive polyimide **layers**)

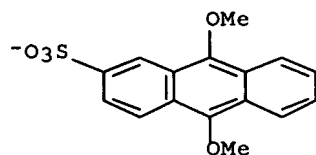
RN 137308-86-2 HCAPLUS

CN Iodonium, diphenyl-, salt with 9,10-dimethoxy-2-anthracenesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 137308-85-1

CMF C16 H13 O5 S



CM 2

CRN 10182-84-0

CMF C12 H10 I

Ph-I⁺-Ph

IC ICM G03F007-039
ICS C08G073-10; C08G077-455; C08K005-00; C08L079-04; C08L083-10;
G03F007-38; G03F007-40; H01L021-027; H01L021-312

CC 76-3 (**Electric** Phenomena)
Section cross-reference(s): 38, 74

ST **semiconductor** device photosensitive polyimide alk
developing; interlayer insulator **semiconductor** device
polyimide; acetal contg polyimide photosensitive **semiconductor**
device

IT Polyamides, processes
(fluorine-containing; **semiconductor** devices with
photosensitive polyimide **layers**)

IT Electric insulators
(interlayer; **semiconductor** devices with photosensitive
polyimide **layers**)

IT Fluoropolymers, processes
(polyamide-; **semiconductor** devices with photosensitive
polyimide **layers**)

IT **Semiconductor** devices
(**semiconductor** devices with photosensitive polyimide
layers)

IT 137308-86-2
(photoacid generator; **semiconductor** devices with
photosensitive polyimide **layers**)

IT 222551-48-6, Bis(4-aminophenoxy)methane-2,2-bis(3,4-
dicarboxyphenyl)hexafluoropropanedianhydride copolymer 222551-50-0
249568-02-3, 2,2-Bis(4-aminophenoxy)propane-2,2-bis(3,4-
dicarboxyphenyl)hexafluoropropanedianhydride copolymer 249568-03-4
249568-04-5 249568-05-6
(**semiconductor** devices with photosensitive polyimide
layers)

L44 ANSWER 48 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2001:356026 HCAPLUS Full-text
DOCUMENT NUMBER: 135:107872
TITLE: PM3/FF Studies on nonlinear optical properties of
polyacene and its derivatives
AUTHOR(S): Hu, L. H.; Su, Z. M.; Wang, X. J.; Wang, C. G.;
Wang, R. S.; Feng, J. K.
CORPORATE SOURCE: Institute of Functional Material Chemistry,
Faculty of Chemistry, Northeast Normal University,
Changchun, Jilin, 130024, Peop. Rep. China
SOURCE: Synthetic Metals (2001), 119(1-3),
579-580
CODEN: SYMEDZ; ISSN: 0379-6779

PUBLISHER: Elsevier Science S.A.
 DOCUMENT TYPE: Journal
 LANGUAGE: English

ED Entered STN: 18 May 2001

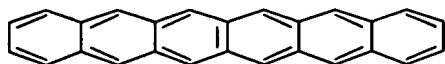
AB Polyacenic **semiconductor** (PAS) materials were investigated extensively in theor. and exptl. studies. The calcn. of quantum chemical PM3/FF method indicated there were nonlinear optical properties in PAS. In this study, the results showed that effects of structures of PAS and -NO, -NH substitution were great. In the three stable structures of equal-bond length structure (a), cis-structure (b) and trans-structure (c), the values β of (b) increased quickly as the number of repeated units increased, while 3 of (a) and (c) were 0. (c) had the biggest γ . Because polyacenes substituted by -NO, and -NH groups were typical "Donor-Acceptor" (D-A) mols., they had larger β about 10^{-2} esu and γ about 10^{-32} esu. It indicated that ladder-type polyacene was not only an excellent conductive material, but also a potential nonlinear optical material.

IT 258-31-1, Hexacene 350613-55-7 350613-56-8
 , 2,3-Hexacenediamine 350613-57-9

(calcn. of nonlinear optical properties of polyacene and derivs.
 using quantum chemical PM3/FF method)

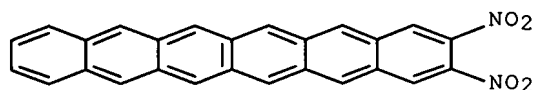
RN 258-31-1 HCAPLUS

CN Hexacene (CA INDEX NAME)



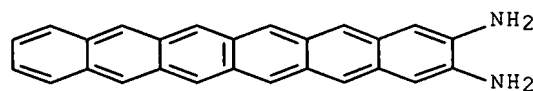
RN 350613-55-7 HCAPLUS

CN Hexacene, 2,3-dinitro- (9CI) (CA INDEX NAME)



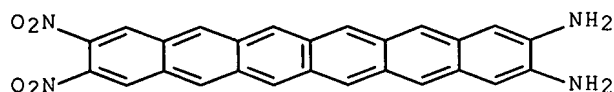
RN 350613-56-8 HCAPLUS

CN 2,3-Hexacenediamine (9CI) (CA INDEX NAME)



RN 350613-57-9 HCAPLUS

CN 2,3-Hexacenediamine, 10,11-dinitro- (9CI) (CA INDEX NAME)



CC 36-5 (Physical Properties of Synthetic High Polymers)

Section cross-reference(s): 73, 76

IT Nonlinear optical properties

Semiconductor materials

(calcn. of nonlinear optical properties of polyacene and derivs.
using quantum chemical PM3/FF method)

IT 92-24-0, Naphthacene **258-31-1**, Hexacene 258-33-3, Octacene
24540-30-5, Decacene 24862-63-3, Dodecacene 350613-51-3
350613-53-5, 2,3-Naphthacenediamine 350613-54-6 **350613-55-7**
350613-56-8, 2,3-Hexacenediamine **350613-57-9**
350613-58-0 350613-59-1, 2,3-Octacenediamine 350613-60-4
350613-61-5 350613-62-6, 2,3-Decacenediamine 350613-63-7
350613-64-8 350613-65-9, 2,3-Dodecacenediamine 350613-66-0

(calcn. of nonlinear optical properties of polyacene and derivs.
using quantum chemical PM3/FF method)

REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN THE
RE FORMAT

L44 ANSWER 49 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2000:756451 HCAPLUS Full-text

DOCUMENT NUMBER: 133:322309

TITLE: Polymers for antireflective **films** for
semiconductor devices

INVENTOR(S): Jung, Min-ho; Hong, Sung-eun; Baik, Ki-ho

PATENT ASSIGNEE(S): Hyundai Electronics Industries Co.,ltd., S. Korea

SOURCE: Ger. Offen., 22 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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DE 19962784	A1	20001026	DE 1999-19962784	19991223
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KR 2000067184	A	20001115	KR 1999-14763	19990423
			<--	
TW 546318	B	20030811	TW 1999-88120015	19991117
			<--	
GB 2349148	A	20001025	GB 1999-27833	19991126
			<--	
GB 2349148	B	20040804		
JP 2001098024	A	20010410	JP 1999-354493	19991214
			<--	
JP 3851476	B2	20061129		
CN 1271720	A	20001101	CN 1999-126381	19991215
			<--	
IT 99TO1099	A1	20010615	IT 1999-TO1099	19991215
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IT 1308674	B1	20020109		
FR 2792633	A1	20001027	FR 2000-392	20000113

US 6368768	B1	20020409	US 2000-501049	20000209
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NL 1014997	A1	20001024	NL 2000-1014997	20000420
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NL 1014997	C2	20010626		
FR 2793254	A1	20001110	FR 2000-7511	20000613
			<--	
FR 2793254	B1	20060922		
FR 2793244	A1	20001110	FR 2000-7514	20000613
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FR 2793255	A1	20001110	FR 2000-7516	20000613
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FR 2793255	B1	20060922		
US 2002132183	A1	20020919	US 2002-54837	20020122
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			US 2000-501049	A3 20000209
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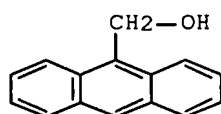
ED Entered STN: 27 Oct 2000

AB Acrylic polymers, useful for antireflective **film** that are markable by submicrolithog. using 248-Nm-KrF-, 193-NM-ArF-, and 157-Nm-F2-lasers on **semiconductor** in assembly of devices, have anthracene (derivative) or p-acetal group-substituted Ph groups. A typical polymer was manufactured by radical polymerization of 0.5 mol 9-anthracenylmethyl acrylate with 0.5 mol 2-hydroxyethyl acrylate.

IT **1468-95-7**, 9-Anthracenemethanol **54060-73-0**,
9-Anthraceneethanol
(monomer precursor; polymers for antireflective **films** for **semiconductor** devices)

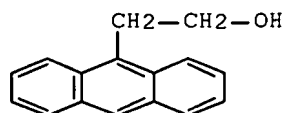
RN 1468-95-7 HCAPLUS

CN 9-Anthracenemethanol (CA INDEX NAME)



RN 54060-73-0 HCAPLUS

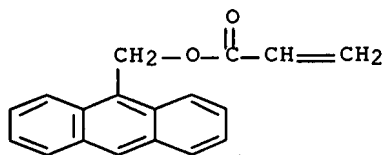
CN 9-Anthraceneethanol (9CI) (CA INDEX NAME)



IT **31645-34-8P**, 9-Anthracenylmethyl acrylate **31645-35-9P**
303109-56-0P
(monomer; polymers for antireflective **films** for **semiconductor** devices)

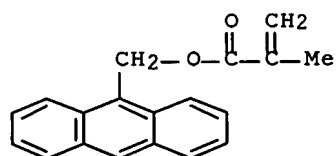
RN 31645-34-8 HCAPLUS

CN 2-Propenoic acid, 9-anthracenylmethyl ester (9CI) (CA INDEX NAME)



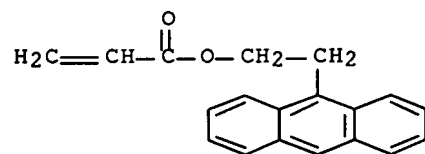
RN 31645-35-9 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 9-anthracenylmethyl ester (9CI) (CA INDEX NAME)



RN 303109-56-0 HCAPLUS

CN 2-Propenoic acid, 2-(9-anthracenyl)ethyl ester (9CI) (CA INDEX NAME)



IT 303109-46-8P 303109-47-9P 303109-48-0P

303109-49-1P 303109-50-4P 303109-51-5P

303109-52-6P 303109-53-7P 303109-54-8P

303109-55-9P 303109-57-1P 303109-58-2P

303109-59-3P

(polymers for antireflective films for
semiconductor devices)

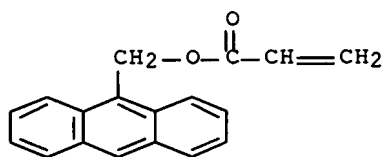
RN 303109-46-8 HCAPLUS

CN 2-Propenoic acid, 9-anthracenylmethyl ester, polymer with
2-hydroxyethyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 31645-34-8

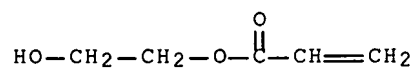
CMF C18 H14 O2



CM 2

CRN 818-61-1

CMF C5 H8 O3



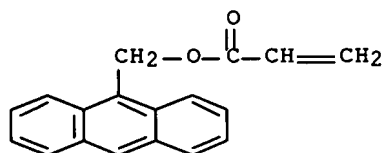
RN 303109-47-9 HCAPLUS

CN 2-Propenoic acid, 9-anthracenylmethyl ester, polymer with
2-hydroxypropyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 31645-34-8

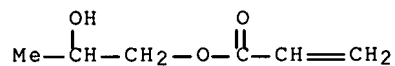
CMF C18 H14 O2



CM 2

CRN 999-61-1

CMF C6 H10 O3

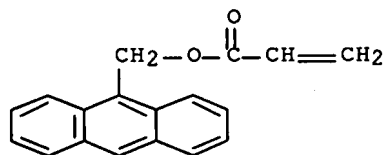


RN 303109-48-0 HCAPLUS

CN 2-Propenoic acid, 9-anthracenylmethyl ester, polymer with
4-hydroxybutyl 2-propenoate (9CI) (CA INDEX NAME)

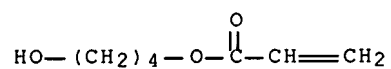
CM 1

CRN 31645-34-8
CMF C18 H14 O2



CM 2

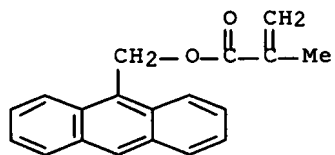
CRN 2478-10-6
CMF C7 H12 O3



RN 303109-49-1 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 9-anthracenylmethyl ester, polymer with
2-hydroxyethyl 2-propenoate (9CI) (CA INDEX NAME)

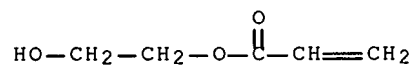
CM 1

CRN 31645-35-9
CMF C19 H16 O2



CM 2

CRN 818-61-1
CMF C5 H8 O3



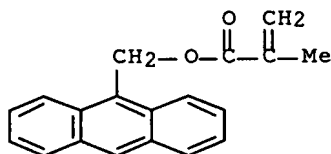
RN 303109-50-4 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 9-anthracenylmethyl ester, polymer with
2-hydroxypropyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 31645-35-9

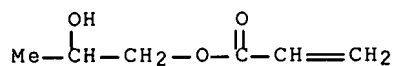
CMF C19 H16 O2



CM 2

CRN 999-61-1

CMF C6 H10 O3



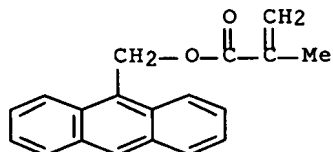
RN 303109-51-5 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 9-anthracenylmethyl ester, polymer with
4-hydroxybutyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 31645-35-9

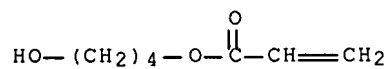
CMF C19 H16 O2



CM 2

CRN 2478-10-6

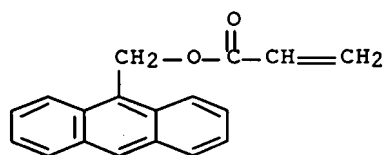
CMF C7 H12 O3



RN 303109-52-6 HCAPLUS
 CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with
 9-anthracenylmethyl 2-propenoate and 2-hydroxyethyl 2-propenoate (9CI)
 (CA INDEX NAME)

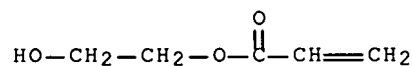
CM 1

CRN 31645-34-8
 CMF C18 H14 O2



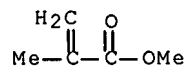
CM 2

CRN 818-61-1
 CMF C5 H8 O3



CM 3

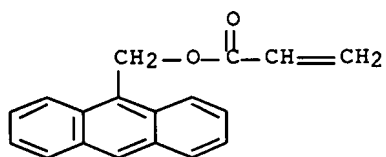
CRN 80-62-6
 CMF C5 H8 O2



RN 303109-53-7 HCAPLUS
 CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with
 9-anthracenylmethyl 2-propenoate and 2-hydroxypropyl 2-propenoate
 (9CI) (CA INDEX NAME)

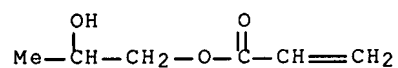
CM 1

CRN 31645-34-8
CMF C18 H14 O2



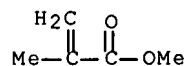
CM 2

CRN 999-61-1
CMF C6 H10 O3



CM 3

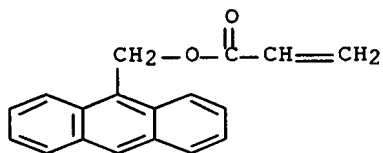
CRN 80-62-6
CMF C5 H8 O2



RN 303109-54-8 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with
9-anthracenylmethyl 2-propenoate and 4-hydroxybutyl 2-propenoate (9CI)
(CA INDEX NAME)

CM 1

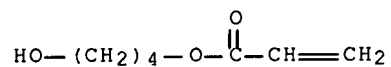
CRN 31645-34-8
CMF C18 H14 O2



CM 2

CRN 2478-10-6

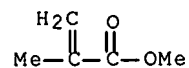
CMF C7 H12 O3



CM 3

CRN 80-62-6

CMF C5 H8 O2



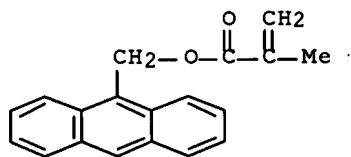
RN 303109-55-9 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with
9-anthracenylmethyl 2-methyl-2-propenoate and 2-hydroxyethyl
2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 31645-35-9

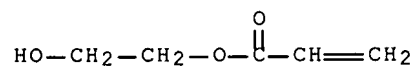
CMF C19 H16 O2



CM 2

CRN 818-61-1

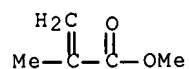
CMF C5 H8 O3



CM 3

CRN 80-62-6

CMF C5 H8 O2



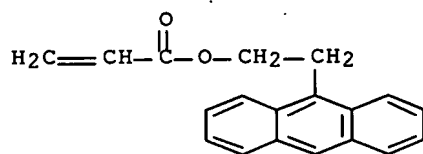
RN 303109-57-1 HCAPLUS

CN 2-Propenoic acid, 2-(9-anthracenyl)ethyl ester, polymer with
2-hydroxyethyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 303109-56-0

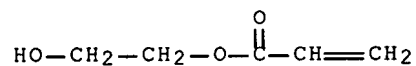
CMF C19 H16 O2



CM 2

CRN 818-61-1

CMF C5 H8 O3



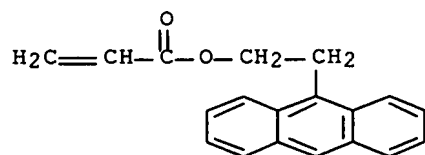
RN 303109-58-2 HCAPLUS,

CN 2-Propenoic acid, 2-(9-anthracenyl)ethyl ester, polymer with
2-hydroxypropyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 303109-56-0

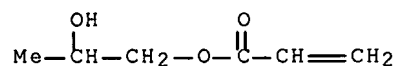
CMF C19 H16 O2



CM 2

CRN 999-61-1

CMF C6 H10 O3



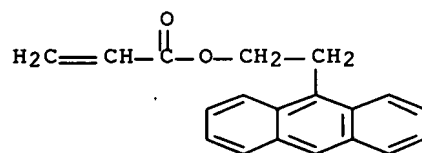
RN 303109-59-3 HCAPLUS

CN 2-Propenoic acid, 2-(9-anthracenyl)ethyl ester, polymer with
4-hydroxybutyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 303109-56-0

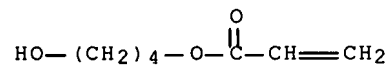
CMF C19 H16 O2



CM 2

CRN 2478-10-6

CMF C7 H12 O3



IC ICM C08F220-28

ICS C08F220-18; C08F220-30

CC 35-4 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 76

ST antireflective **film semiconductor** device

anthracenylmethyl acrylate copolymer; para acetal group substituted phenyl contg acrylic antireflective film; hydroxyethyl acrylate copolymer antireflective film semiconductor device

IT Antireflective films

Semiconductor devices

(polymers for antireflective films for semiconductor devices)

IT 123-08-0, 4-Hydroxybenzaldehyde 1468-95-7, 9-Anthracenemethanol 54060-73-0, 9-Anthraceneethanol (monomer precursor; polymers for antireflective films for semiconductor devices)

IT 31645-34-8P, 9-Anthracenylmethyl acrylate 31645-35-9P 36195-33-2P, 4-Formylphenyl methacrylate 303109-56-0P (monomer; polymers for antireflective films for semiconductor devices)

IT 64-17-5DP, Ethanol, reaction products with poly(formylphenyl methacrylate), preparation 67-56-1DP, Methanol, reaction products with poly(formylphenyl methacrylate), preparation 303109-46-8P 303109-47-9P 303109-48-0P 303109-49-1P 303109-50-4P 303109-51-5P 303109-52-6P 303109-53-7P 303109-54-8P 303109-55-9P 303109-57-1P 303109-58-2P 303109-59-3P 303109-61-7DP, reaction products with alcs. (polymers for antireflective films for semiconductor devices)

IT 303109-61-7P (precursor; polymers for antireflective films for semiconductor devices)

L44 ANSWER 50 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2000:501851 HCAPLUS Full-text

DOCUMENT NUMBER: 133:121348

TITLE: Condensed aromatic ring-containing phenolic polymers, epoxy resins, their compositions, and cured products with moisture and heat resistance and mechanical strength

INVENTOR(S): Kaji, Masashi; Nakahara, Kazuhiko

PATENT ASSIGNEE(S): Nippon Steel Chemical Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2000204141	A	20000725	JP 1999-5692	19990112

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PRIORITY APPLN. INFO.:	JP 1999-5692	19990112
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OTHER SOURCE(S): MARPAT 133:121348

ED Entered STN: 25 Jul 2000

AB The phenolic polymers, useful for semiconductor packages, laminated sheets, coatings, etc., are manufactured from condensed polycyclic aromatic hydrocarbons 1, C₆H₄(CH₂OR)₂ (R = H, C₁-6 hydrocarbyl) 1.5-20, and phenols 4-40 mol in the presence of acidic catalysts. A composition comprising phenol novolak 39, epoxy resin manufactured from epichlorohydrin and pyrene- α , α' -dimethoxy-p-xylene-phenol copolymer 111, SiO₂ 450 parts, and other additives

was cured to give a test piece showing Tg 137°, flexural strength 15.0 kg/mm², flexural modulus 1710 kg/mm², and water absorption 0.23% (85°, 85 RH, 72 h). A package of the composition showed no crack generation after water absorption (85°, 85 RH, 72 h) and soldering at 260° for 10 s.

IT **185907-09-9DP**, reaction products with epichlorohydrin, polymers with phenolic polymers

(condensed aromatic ring-containing phenolic polymers, epoxy resins, their compns., and cured products with moisture and heat resistance and mech. strength)

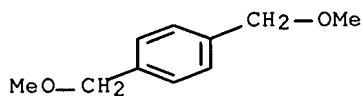
RN 185907-09-9 HCAPLUS

CN Phenol, 2-methyl-, polymer with anthracene and 1,4-bis(methoxymethyl)benzene (9CI) (CA INDEX NAME)

CM 1

CRN 6770-38-3

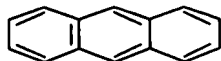
CMF C10 H14 O2



CM 2

CRN 120-12-7

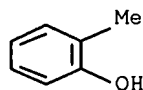
CMF C14 H10



CM 3

CRN 95-48-7

CMF C7 H8 O



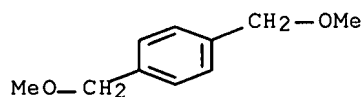
IT **185907-09-9P**, Anthracene-o-cresol- α,α' -dimethoxy-p-xylene copolymer

(condensed aromatic ring-containing phenolic polymers, epoxy resins, their compns., and cured products with moisture and heat resistance and mech. strength)

RN 185907-09-9 HCAPLUS
 CN Phenol, 2-methyl-, polymer with anthracene and 1,4-bis(methoxymethyl)benzene (9CI) (CA INDEX NAME)

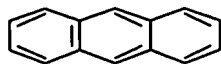
CM 1

CRN 6770-38-3
 CMF C10 H14 O2



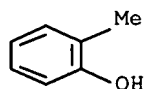
CM 2

CRN 120-12-7
 CMF C14 H10



CM 3

CRN 95-48-7
 CMF C7 H8 O



IC ICM C08G061-02
 ICS C08G059-04; C08G059-20
 CC 38-3 (Plastics Fabrication and Uses)
 Section cross-reference(s): 35, 76
 ST epoxy resin moisture resistance **semiconductor** package;
 methoxyxylene phenol pyrene epichlorohydrin copolymer curable;
semiconductor package epoxy resin heat resistance
 IT 106-89-8DP, Epichlorohydrin, reaction products with condensed aromatic
 ring-containing phenolic polymers, polymers with phenolic polymers
 9003-35-4DP, PN, polymers with epoxy resins 26834-02-6DP, XL 225-3L,
 polymers with epoxy resins **185907-09-9DP**, reaction products
 with epichlorohydrin, polymers with phenolic polymers 254991-46-3DP,
 reaction products with epichlorohydrin, polymers with phenolic
 polymers 285979-15-9DP, polymers with epoxy resins

(condensed aromatic ring-containing phenolic polymers, epoxy resins, their compns., and cured products with moisture and heat resistance and mech. strength)

IT **185907-09-9P**, Anthracene-o-cresol- α,α' -dimethoxy-p-xylene copolymer 254991-46-3P, α,α' -Dimethoxy-p-xylene-phenol-pyrene copolymer

(condensed aromatic ring-containing phenolic polymers, epoxy resins, their compns., and cured products with moisture and heat resistance and mech. strength)

L44 ANSWER 51 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2000:133365 HCAPLUS Full-text

DOCUMENT NUMBER: 132:174510

TITLE: Integrated circuit containing thin-film transistors and its fabrication

INVENTOR(S): Dodabalapur, Ananth

PATENT ASSIGNEE(S): Lucent Technologies Inc., USA

SOURCE: Eur. Pat. Appl., 14 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 981165	A1	20000223	EP 1999-306305	19990810
			<--	
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
US 6215130	B1	20010410	US 1998-137920	19980820
			<--	
TW 413951	B	20001201	TW 1999-88110493	19990622
			<--	
JP 2000068523	A	20000303	JP 1999-233342	19990820
			<--	
KR 2000017418	A	20000325	KR 1999-34561	19990820
			<--	
PRIORITY APPLN. INFO.:			US 1998-137920	A 19980820
			<--	

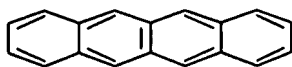
ED Entered STN: 25 Feb 2000

AB The specification describes thin-film transistor integrated circuits in which the TFT devices are field effect transistors with inverted structures. The interconnect levels are produced prior to the formation of the transistors. This structure leads to added flexibility in processing. The inverted structure is a result of removing the constraints in traditional field effect device manufacture that are imposed by the necessity of starting the device fabrication with the single crystal **semiconductor** active material. In the inverted structure, the active material, preferably an organic **semiconductor**, is formed last in the fabrication sequence.

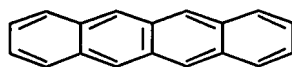
IT **92-24-0**, Tetracene **92-24-0D**, Tetracene, oligomers
(manufacture of thin-film transistors containing)

RN 92-24-0 HCAPLUS

CN Naphthacene (CA INDEX NAME)



RN 92-24-0 HCAPLUS
CN Naphthalene (CA INDEX NAME)



IC ICM H01L027-12
ICS H01L021-84; H01L027-00; H01L051-20; H01L051-30; H01L021-74
CC 76-3 (**Electric** Phenomena)
ST thin **film** transistor integrated circuit fabrication; org
semiconductor thin **film** transistor integrated
circuit fabrication
IT Integrated circuits
Interconnections (electric)
Semiconductor device fabrication
Thin **film** transistors
(manufacture of integrated circuits containing thin-**film**
transistors)
IT Polymers, processes
(manufacture of thin-**film** transistors containing)
IT **Semiconductor** materials
(organic; manufacture of thin-**film** transistors containing)
IT 81-30-1, Naphthalene tetracarboxylic dianhydride **92-24-0**,
Tetracene **92-24-0D**, Tetracene, oligomers 92-87-5,
p,p'-Diaminobiphenyl 92-87-5D, p,p'-Diaminobiphenyl, oligomers
110-02-1D, Thiophene, oligomers 128-69-8, Perylene tetracarboxylic
dianhydride 128-69-8D, Perylene tetracarboxylic dianhydride, imide
derivative 135-48-8, Pentacene 135-48-8D, Pentacene, oligomers
147-14-8D, Copper phthalocyanine, fluorinated 25233-34-5,
Polythiophene 26571-64-2D, Polyvinylene, oligomeric block copolymers
with polytheinylen 51325-05-4D, Polythienylene, oligomeric block
copolymers with polyvinylene 88493-55-4, α -Sexithiophene
258832-52-9 258832-53-0
(manufacture of thin-**film** transistors containing)
REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN THE
RE FORMAT

L44 ANSWER 52 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1998:658537 HCAPLUS Full-text
DOCUMENT NUMBER: 129:338714
TITLE: Thin-**film** transistors with organic
semiconductors
INVENTOR(S): Dimitrakopoulos, Christos Dimitrios; Duncombe,
Peter Richard; Furman, Bruce K.; Leibowitz, Robert
B.; Neumayer, Deborah Ann; Purushothaman, Sampath
PATENT ASSIGNEE(S): International Business Machines Corp., USA

SOURCE: Jpn. Kokai Tokkyo Koho, 17 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 3
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10270712	A	19981009	JP 1998-76201	19980324
			<--	
JP 3304299	B2	20020722		
US 5946551	A	19990831	US 1997-827015	19970325
			<--	
US 5981970	A	19991109	US 1997-827018	19970325
			<--	
TW 432720	B	20010501	TW 1998-87103853	19980316
			<--	
PRIORITY APPLN. INFO.:			US 1997-827015	A 19970325
			<--	
			US 1997-827018	A 19970325
			<--	

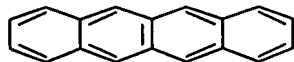
ED Entered STN: 19 Oct 1998

AB TFTs contain substrates, gate electrodes on the substrates, highly-dielec. insulator **films** on the gate electrodes, **organic semiconductor layers** on the insulator **films**, and source/drain electrodes on the **layers**. The insulator **films** indicate the dependence of the organic **semiconductors** on unexpected gate potential and achieve high field effect mobility at very low driving potential.

IT **92-24-0**, Tetracene **120-12-7**, Anthracene, uses **258-31-1**, Hexacene
 (thin-film transistors with organic **semiconductors** from)

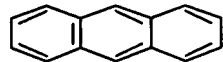
RN 92-24-0 HCAPLUS

CN Naphthacene (CA INDEX NAME)



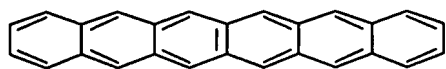
RN 120-12-7 HCAPLUS

CN Anthracene (CA INDEX NAME)



RN 258-31-1 HCAPLUS

CN Hexacene (CA INDEX NAME)



- IC ICM H01L029-786
ICS H01L021-336
- CC 76-3 (**Electric** Phenomena)
- ST thin **film** transistor org **semiconductor**; insulator
film org **semiconductor** TFT
- IT Polyanilines
(elec. **conductive**; thin-**film** transistors with
organic **semiconductors** and gate electrodes from)
- IT **Semiconductor** materials
Thin **film** transistors
(thin-**film** transistors with organic **semiconductors**
)
- IT Metal alkoxides
Polycarbonates, uses
Polyimides, uses
(thin-**film** transistors with organic **semiconductors**
and insulator **films** from)
- IT Glass, uses
Plastics, uses
(thin-**film** transistors with organic **semiconductors**
and substrates from)
- IT 30604-81-0, Polypyrrole
(elec. **conductive**; thin-**film** transistors with
organic **semiconductors** and gate electrodes from)
- IT 7429-90-5, Aluminum, uses 7439-98-7, Molybdenum, uses 7440-02-0,
Nickel, uses 7440-06-4, Platinum, uses 7440-32-6, Titanium, uses
7440-33-7, Tungsten, uses 7440-47-3, Chromium, uses 7440-50-8,
Copper, uses 7440-57-5, Gold, uses
(thin-**film** transistors with organic **semiconductors**
and gate electrodes from)
- IT 1314-36-9, Yttrium trioxide, uses 1314-61-0, Tantalum pentoxide
11115-71-2, Bismuth titanate 12047-27-7, Barium titanate, uses
12060-59-2, Strontium titanate 13463-67-7, Titanium dioxide, uses
37305-87-6, Barium strontium titanate 37305-89-8, Barium titanate
zirconate 53572-00-2, Bismuth strontium titanate 114952-68-0,
Lanthanum lead titanium oxide ((La,Pb)TiO₃) 123193-40-8, Lead
strontium titanium oxide ((Pb,Sr)TiO₃) 166877-45-8, Bismuth
strontium tantalate 215190-18-4, Barium magnesium fluoride
215190-20-8, Bismuth niobium titanium oxide (Bi(Nb,Ti)O₃)
(thin-**film** transistors with organic **semiconductors**
and insulator **films** from)
- IT 7440-21-3, Silicon, uses 14808-60-7, Quartz, uses
(thin-**film** transistors with organic **semiconductors**
and substrates from)
- IT 91-20-3, Naphthalene, uses 92-24-0, Tetracene
120-12-7, Anthracene, uses 135-48-8, Pentacene
258-31-1, Hexacene
(thin-**film** transistors with organic **semiconductors**
from)

TITLE: Material for p-type contact containing group II-VI **semiconductor**, and method of forming the contact for **semiconductor** device
 INVENTOR(S): Ueba, Yoshinobu; Uemura, Taku
 PATENT ASSIGNEE(S): Sumitomo Electric Industries, Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10126008	A	19980515	JP 1996-297112	19961018
			<--	
PRIORITY APPLN. INFO.:			JP 1996-297112	19961018
			<--	

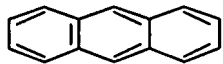
ED Entered STN: 25 May 1998

AB The invention relates to a material for a P-type contact composed of metal/contact **layer**/II-VI P-**semiconductor**, suited for use in a **semiconductor** device, e.g., a blue laser diode, wherein the contact **layer** is a organic compound/metal hybrid **layer**, wherein the ionization potentials of the organic compound and the metal are ≥ 4 eV, resp., thereby reducing the barrier height.

IT 120-12-7, Anthracene, uses
 (material for II-VI p-contact containing organic compound/metal hybrid **layer** for **semiconductor** device containing)

RN 120-12-7 HCAPLUS

CN Anthracene (CA INDEX NAME)



IC ICM H01S003-18

ICS H01L021-28; H01L033-00

CC 76-2 (**Electric** Phenomena)

Section cross-reference(s): 38, 73, 75

ST II VI contact material **semiconductor** device

IT **Semiconductor** devices

Semiconductor lasers

(material for II-VI p-contact containing organic compound/metal hybrid **layer** for)

IT Electric contacts

(material for II-VI p-contact containing organic compound/metal hybrid **layer** for a **semiconductor** device)

IT Group IIB element chalcogenides

(material for II-VI p-contact containing organic compound/metal hybrid **layer** for **semiconductor** device containing)

IT Metallophthalocyanines

(material for II-VI p-contact containing organic compound/metal hybrid **layer** for **semiconductor** device containing)

IT Polythiophenylenes

(material for II-VI p-contact containing organic compound/metal hybrid **layer** for **semiconductor** device containing AsF₅-doped)

- IT Vapor deposition process
(material for II-VI p-contact containing organic compound/metal hybrid **layer** for **semiconductor** device formed by)
- IT Vapor deposition process
(vacuum; material for II-VI p-contact containing organic compound/metal hybrid **layer** for **semiconductor** device formed by)
- IT 1315-09-9, Zinc selenide (ZnSe) 1315-11-3, Zinc telluride (ZnTe)
(material for II-VI p-contact containing organic compound/metal hybrid **layer** for **semiconductor** device containing)
- IT 85-01-8, Phenanthrene, uses 120-12-7, Anthracene, uses 147-14-8, Copper phthalocyanine 574-93-6, Phthalocyanine 603-34-9 1661-03-6, Magnesium phthalocyanine 7429-90-5, Aluminum, uses 7440-02-0, Nickel, uses 7440-05-3, Palladium, uses 7440-06-4, Platinum, uses 7440-22-4, Silver, uses 7440-57-5, Gold, uses 7782-42-5, C60, uses 14055-02-8 14320-04-8, Zinc phthalocyanine 15187-16-3, Lead phthalocyanine 27236-84-6, Tetraphenylbutadiene 65181-78-4, TPD 84370-49-0 124729-98-2, MTDATA
(material for II-VI p-contact containing organic compound/metal hybrid **layer** for **semiconductor** device containing)
- IT 7784-36-3, Arsenic fluoride (AsF₅)
(material for II-VI p-contact containing organic compound/metal hybrid **layer** for **semiconductor** device containing)
- IT 25190-62-9, Poly(1,4-phenylene) 96638-49-2, Polyphenylenevinylene
(material for II-VI p-contact containing organic compound/metal hybrid **layer** for **semiconductor** device containing AsF₅-doped)

L44 ANSWER 54 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1997:617904 HCAPLUS Full-text

DOCUMENT NUMBER: 127:340567

TITLE: Organic silicon oxide compound molecular **film laminates** for electrical and optical materials

INVENTOR(S): Murao, Kenji

PATENT ASSIGNEE(S): Hitachi, Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

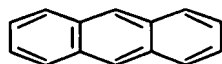
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 09246627	A	19970919	JP 1996-57190	19960314
			<--	
PRIORITY APPLN. INFO.:			JP 1996-57190	19960314
			<--	

ED Entered STN: 27 Sep 1997

AB The title **laminates** are a single-mol. or ≤ 5 -mol. Si oxide compound **film laminate** which is inserted between the **films** with a single-mol. or ≤ 5 -mol. organic compound **film**. One of the 4 bondings of Si in the Si oxide compound is bonded to a non-hydrolyzing organic group such as an alkyl, aralkyl or polymerizable alkene group and the 3 remainder bondings are bonded to O atmospheric The precursor in deposition of the **laminates** has amphoteric (hydrophilic/lipophilic) groups such as monoalkyltrialkoxysilanol. The use of the organic Si oxide compound mol. **film laminates** as a matrix gives the **laminates** an easy manufacture and homogeneous even **lamination** in manufacturing of anisotropic conductors, photochem. and optochem. materials, electron

donors, elec. current switching materials, and IR spectral absorbents, and **semiconductor** devices.

- IT **120-12-7P**, Anthracene, properties
 (precursor; organic silicon oxide compound mol. **film laminates** for elec. and optical materials)
 RN 120-12-7 HCAPLUS
 CN Anthracene (CA INDEX NAME)



- IC ICM H01L051-00
 ICS B32B009-00; H01L021-283; H01L021-368
 CC 76-14 (**Electric** Phenomena)
 Section cross-reference(s): 47, 73
 ST alkyltrialkoxysilanol amphoteric mol **film laminate**
 ; org silicon oxide compd mol **film**; anisotropic
conductor alkyltrialkoxysilanol mol **film laminate**; photochem optochem alkyltrialkoxysilanol mol **film laminate**; electron donor alkyltrialkoxysilanol mol **film laminate**; current switching alkyltrialkoxysilanol mol **film laminate**; IR absorbent alkyltrialkoxysilanol mol **film laminate**; **semiconductor** device alkyltrialkoxysilanol mol **film laminate**; hydrophilic lipophilic group mol **film precursor**
 IT Electric conductors
 Electric conductors
 (anisotropic; organic silicon oxide compound mol. **film laminates** for elec. and optical materials)
 IT Anisotropic materials
 Anisotropic materials
 (elec. conductors; organic silicon oxide compound mol. **film laminates** for elec. and optical materials)
 IT Electric switches
 Electron donors
 IR reflection-absorption spectra
 IR reflection-absorption spectra
 IR reflection-absorption spectra
 Optical materials
 Photochemistry
Semiconductor devices
 (organic silicon oxide compound mol. **film laminates** for elec. and optical materials)
 IT Organic compounds, properties
 (organic silicon oxide compound mol. **film laminates** for elec. and optical materials)
 IT 2943-75-1, n-Octyltriethoxysilane
 (organic silicon oxide compound mol. **film laminates** for elec. and optical materials)
 IT **120-12-7P**, Anthracene, properties 102197-58-0P
 (precursor; organic silicon oxide compound mol. **film laminates** for elec. and optical materials)

ACCESSION NUMBER: 1997:523048 HCAPLUS Full-text
 DOCUMENT NUMBER: 127:184336
 TITLE: Organic thin-film transistor with enhanced carrier mobility and its fabrication
 INVENTOR(S): Shi, Song Q.; Shieh, Chan-Long; Lee, Hsing-Chung
 PATENT ASSIGNEE(S): Motorola, Inc., USA
 SOURCE: Eur. Pat. Appl., 6 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
EP 786820	A2	19970730	EP 1997-101017	19970123
			<--	
EP 786820	A3	19980701		
R: DE, FR, GB				
US 6326640	B1	20011204	US 1996-592930	19960129
			<--	
JP 09232589	A	19970905	JP 1997-28474	19970128
			<--	
PRIORITY APPLN. INFO.:			US 1996-592930	A 19960129
			<--	

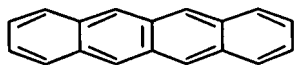
ED Entered STN: 16 Aug 1997

AB An organic thin-film transistor includes a gate on a gate insulator layer, a source and a drain positioned spaced apart on a film of organic semiconductor material with uniaxially aligned mols., the organic semiconductor being positioned so that the mols. are aligned between the source and drain, and an orientation film positioned adjacent to the organic semiconductor film so that mol. uniaxial alignment of the organic semiconductor film is achieved by the orientation film.

IT 92-24-0, Tetracene
(fabrication of organic thin-film transistor with enhanced carrier mobility containing)

RN 92-24-0 HCAPLUS

CN Naphthacene (CA INDEX NAME)



IC ICM H01L051-20

CC 76-3 (Electric Phenomena)

ST org thin film transistor

IT Polymers, processes
(conjugated; fabrication of organic thin-film transistor with enhanced carrier mobility containing)

IT Thin film transistors
(fabrication of organic thin-film transistor with enhanced carrier mobility)

IT Polyacenes
Polyacetylenes, processes
Polyphenyls
(fabrication of organic thin-film transistor with enhanced

carrier mobility containing)
 IT 92-24-0, Tetracene 129-00-0, Pyrene, processes 135-48-8,
 Pentacene 147-14-8, Copper phthalocyanine 191-07-1, Coronene
 198-55-0, Perylene 218-01-9, Chrysene 14074-80-7, Zinc,
 5,10,15,20-tetraphenyl-21H,23H-porphine 14154-42-8, Aluminum
 phthalocyanine chloride 25013-01-8, Polypyridine 25067-54-3,
 Polyfuran 25067-58-7, Polyacetylene 25233-30-1, Polyaniline
 25233-34-5, Polythiophene 27987-87-7, Polydiacetylene 30604-81-0,
 Polypyrrole 66280-99-7, Polythienylenevinylene 79079-35-9
 96638-49-2, Poly(phenylenevinylene)
 (fabrication of organic thin-film transistor with enhanced
 carrier mobility containing)

L44 ANSWER 56 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1993:592557 HCAPLUS Full-text

DOCUMENT NUMBER: 119:192557

TITLE: Conducting thin films of pentacene doped with
alkali metals

AUTHOR(S): Minakata, Takashi; Ozaki, Masaru; Imai, Hideaki

CORPORATE SOURCE: Cent. Lab., Asahi Chem. Ind. Co. Ltd., Fuji, 416,
Japan

SOURCE: Journal of Applied Physics (1993),
74(2), 1079-82

CODEN: JAPIAU; ISSN: 0021-8979

DOCUMENT TYPE: Journal

LANGUAGE: English

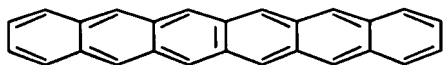
ED Entered STN: 30 Oct 1993

AB Donor doping of thin films of pentacene (PEN) with alkaline metals such as
sodium, potassium, and rubidium was carried out. Drastic changes in
conductivities of PEN films from an insulator to an n-type **semiconductor** due
to the doping was observed. Maximum conductivity of $2.8 \Omega^{-1} \text{ cm}^{-1}$ was shown in
the film doped with rubidium. Alkaline metal doping of thin films of other
acene compds. such as tetracene and hexacene was also performed.

IT 258-31-1, Hexacene
(elec. conductivity of films of, doped with potassium and rubidium and
sodium)

RN 258-31-1 HCAPLUS

CN Hexacene (CA INDEX NAME)



CC 76-1 (**Electric** Phenomena)

ST pentacene film alkali metal doped cond; tetracene film alkali metal
doped cond; hexacene film alkali metal doped cond;
semiconductor alkali metal doped pentacene; rubidium doped
pentacene cond

IT **Semiconductor** materials

(n-type, hexacene and pentacene doped with alkali metals)

IT 92-24-0, Tetracene 135-48-8, Pentacene 258-31-1, Hexacene
(elec. conductivity of films of, doped with potassium and rubidium and
sodium)

L44 ANSWER 57 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1991:34247 HCAPLUS Full-text
 DOCUMENT NUMBER: 114:34247
 TITLE: **Semiconductor** device comprising an organic material
 INVENTOR(S): Eguchi, Ken; Kawada, Haruki; Sakai, Kunihiro; Tomida, Yoshinori; Matsuda, Hiroshi; Kimura, Toshiaki; Takimoto, Kiyoshi; Miyazaki, Toshihiko; Morikawa, Yuko
 PATENT ASSIGNEE(S): Canon K. K., Japan
 SOURCE: Eur. Pat. Appl., 34 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 252756	A2	19880113	EP 1987-306128	19870710
			<--	
EP 252756	A3	19891115		
R: CH, DE, ES, FR, GB, IT, LI, NL				
JP 63073560	A	19880404	JP 1986-217818	19860916
			<--	
JP 63094672	A	19880425	JP 1986-239847	19861008
			<--	
JP 63146464	A	19880618	JP 1986-282053	19861128
			<--	
JP 07079173	B	19950823		
US 4939556	A	19900703	US 1987-71393	19870709
			<--	
EP 502590	A2	19920909	EP 1992-201460	19870710
			<--	
EP 502590	A3	19930428		
R: CH, DE, ES, FR, GB, IT, LI, NL				
PRIORITY APPLN. INFO.:			JP 1986-160931	A 19860710
			<--	
			JP 1986-161978	A 19860711
			<--	
			JP 1986-217818	A 19860916
			<--	
			JP 1986-239847	A 19861008
			<--	
			JP 1986-282053	A 19861128
			<--	

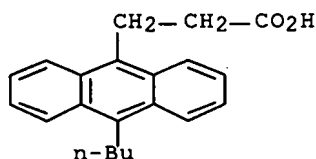
ED Entered STN: 26 Jan 1991

AB An organic **semiconductor** device has superlattice structure with insulating and **conductive layers** which are alternated. The device has an amplification function, or a switching effect. The organic **film** may be a monomol. or monomol. built-up **film** comprising a mol. having both a hydrophilic and a hydrophobic part.

IT **70022-36-5**
 (**layers**, in **semiconductor** devices)

RN 70022-36-5 HCAPLUS

CN 9-Anthracenepropanoic acid, 10-butyl- (9CI) (CA INDEX NAME)



- IC ICM H01L029-28
 CC 76-3 (**Electric** Phenomena)
 ST **semiconductor** device org **film**; TCNQ **film**
semiconductor device
 IT Electric amplifiers
 Electric switches and switching
Semiconductor devices
 (containing organic **layers**)
 IT Oxides, uses and miscellaneous
 Selenides
 Sulfides, uses and miscellaneous
 (**films**, in **semiconductor** devices with organic
films)
 IT Group IIB element compounds
 Group IIIA element compounds
 Group IVA element compounds
 Group VA element compounds
 Group VIA element compounds
 (in **semiconductor** devices with organic **films**)
 IT 7440-21-3D, Silicon, compds. 7440-38-2D, Arsenic, compds.
 7440-43-9D, Cadmium, compds. 7440-44-0D, Carbon, compds.
 7440-55-3D, Gallium, compds. 7440-66-6D, Zinc, compds. 7440-74-6D,
 Indium, compds. 7723-14-0D, Phosphorus, compds. 11113-78-3,
 Palladium silicide 39467-10-2, Nickel silicide
 (**films**, in **semiconductor** devices with organic
films)
 IT 7429-90-5, Aluminum, uses and miscellaneous 7440-02-0, Nickel, uses
 and miscellaneous 7440-06-4, Platinum, uses and miscellaneous
 7440-57-5, Gold, uses and miscellaneous 115907-01-2 131331-17-4
 (in **semiconductor** devices with organic **films**)
 IT 12156-33-1 14923-81-0, Cadmium arachidate 66990-32-7,
 10,12-Pentacosadiynoic acid **70022-36-5** 101853-37-6
 102149-36-0 125888-70-2 131331-11-8 131331-15-2
 (**layers**, in **semiconductor** devices)

L35	6	SEA	ABB=ON	PLU=ON	L33 AND L34
L36	6	SEA	ABB=ON	PLU=ON	L33 AND SEMICONDUCTOR FILMS?
L37	50	SEA	ABB=ON	PLU=ON	L33 AND ?CONDUCT?(2A) (LAYER? OR FILM? OR BILAYER? OR SHEET? OR THINLAYER? OR LAMIN? OR OVERLAY? OR OVERLAID? OR MULTILAYER?)
L38	61	SEA	ABB=ON	PLU=ON	L31 OR (L35 OR L36 OR L37)
L39	57	SEA	ABB=ON	PLU=ON	L38 AND (1840-2003)/PRY,AY,PY
L40	11	SEA	ABB=ON	PLU=ON	L39 AND L31
L41	25	SEA	ABB=ON	PLU=ON	L32 AND (ORGANIC(A) (SEMICONDUCT? OR SEMI (A) CONDUCT?) (A) LAYER?)
L42	25	SEA	ABB=ON	PLU=ON	L41 AND ELECTRIC?/SC, SX
L43	13	SEA	ABB=ON	PLU=ON	L42 AND (1840-2003)/PRY,AY,PY
L44	57	SEA	ABB=ON	PLU=ON	L43 OR